

PRESIDING MEMBER'S PROPOSED DECISION

APPLICATION FOR CERTIFICATION

OTAY MESA GENERATING PROJECT

(PG&E NATIONAL ENERGY GROUP)

Docket No 99-AFC-5



MARCH 2001

**CALIFORNIA
ENERGY
COMMISSION**

Gray Davis, Governor

P 800-01-007

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

The Committee hereby submits its Presiding Member's Proposed Decision for the Otay Mesa Generating Project (Docket Number 99-AFC-5). We have prepared this document pursuant to the requirements set forth in the Commission's regulations. (20 Cal. Code of Regs., §§ 1749-1752. 5). We recommend the Application for Certification for the Otay Mesa Generating Project be approved, subject to the Conditions of Certification set forth herein, and that the Commission grant the Applicant a license to construct and operate the project.

Dated: _____

**ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**_____
ROBERT A. LAURIE
Commissioner and Presiding Member
Otay Mesa AFC Committee_____
ROBERT PERNELL
Commissioner and Associate Member
Otay Mesa AFC Committee

**STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission**

In the Matter of:)	Docket No. 99-AFC-5
)	
Application for Certification for the)	NOTICE OF AVAILABILITY OF THE
OTAY MESA GENERATING PROJECT)	PRESIDING MEMBER S PROPOSED
(PG&E National Energy Group))	DECISION —and- NOTICE OF PUBLIC
)	CONFERENCE —and- NOTICE OF
)	COMMISSION HEARING

I. NOTICE OF AVAILABILITY

PLEASE TAKE NOTICE that the Presiding Member s Proposed Decision (PMPD) on the Otay Mesa Generating Project was issued on March 12, 2001. Copies have been sent to the Proof of Service List and are available from the Commission s Publications Unit, MS-13, 1516 9th Street, Sacramento, CA 95814. You may telephone the Publications Unit at (916) 654-5200 and request Publication No. P800-01-005. The PMPD may also be viewed on the Commission s Internet Web Site at: www.energy.ca.gov/sitingcases/otaymesa

**The 30-day public comment period on the PMPD ends at 5:00 p.m. on
Thursday, April 12, 2001.**

The parties, members of the public, and interested governmental agencies may submit written comments on the PMPD to the following address: Energy Commission Docket Unit, MS-4, 1516 9th Street, Sacramento, CA 95814. Include one original and 11 copies. Identify all comments with Docket No. 99-AFC-5. Comments must be received by the Docket Unit no later than 5:00 p.m. on April 12, 2001.

II. NOTICE OF COMMITTEE CONFERENCE

The Committee will conduct a public Conference to discuss comments on the PMPD as follows:

**FRIDAY, APRIL 6, 2001
Beginning at 10:00 a.m.
County Administration Building
Room 358, South Board Chambers
1600 Pacific Highway
San Diego, California 92101**

Applicant, Staff, and Intervenors intending to participate at the Conference shall serve and file written comments ***no later than 12:00 p.m. on April 4, 2001***. Governmental agencies and members of the general public wishing to participate at this Conference are encouraged, but not required, to submit their written comments by the same date.

Direction to Applicant: To the extent feasible, Applicant shall provide information on the status of the proposed North Baja Pipeline application currently pending before the Federal

Energy Regulatory Commission (FERC), including the approval date, if known, data regarding committed capacity, precedent agreements, coordination with Mexico's Energy Regulatory Commission (CRE), and other pertinent factors related to development of the North Baja project.

III. COMMISSION HEARING

If no comments are received from the parties that would change the substantive findings and conclusions of the PMPD, the Commission will conduct a hearing to consider the PMPD and any Errata to the PMPD (incorporating comments and clarifications) at its regularly scheduled Business Meeting as follows:

WEDNESDAY, APRIL 18, 2001
Beginning at 10 a.m.
CALIFORNIA ENERGY COMMISSION
First Floor Hearing Room A
1516 Ninth Street
Sacramento, California 95814

Teleconference: For those parties, governmental agencies, or members of the public who cannot travel to Sacramento to attend the Commission hearing, you may participate by teleconference by dialing toll free: **1-877-601-3548. The Passcode is: Business Meeting.**
Conference Leader: Jerome Lee

Information: For information concerning public participation, contact the Commission's Public Adviser, Roberta Mendonca, at (916) 654-4489 or, toll free, at (800) 822-6228; or e-mail: **pao@energy.state.ca.us**

Media inquiries should be directed to Claudia Chandler at (916) 654-4989. If you require special accommodations, contact Robert Sifuentes at (916) 654-5004 at least five days prior to the Conference or the Commission Hearing.

Technical questions should be directed to the Commission's Project Manager, Eileen Allen, at (916) 654-4082, or email: **eallen@energy.state.ca.us**

Questions of a legal or procedural nature should be addressed to Susan Gefter, the Hearing Officer, at (916) 654-3893, or email: **sgefter@energy.state.ca.us**

Dated: _____

**ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

ROBERT A. LAURIE, Commissioner
Presiding Committee Member
Otay Mesa AFC Committee

ROBERT PERNELL, Commissioner
Associate Committee Member
Otay Mesa AFC Committee

**CALIFORNIA
ENERGY
COMMISSION**
*1516 9th Street
Sacramento, CA 95814*

www.energy.ca.gov/sitingcases/otaymesa



OTAY MESA GENERATING PROJECT Committee

ROBERT A. LAURIE, Commissioner
Presiding Committee Member

ROBERT PERNELL, Commissioner
Associate Committee Member

Hearing Office

STANLEY VALKOSKY
Chief Hearing Officer

SUSAN GEFTER
Hearing Officer

INTRODUCTION

A. SUMMARY OF THE PROPOSED DECISION

This Decision contains our rationale for determining that the Otay Mesa Generating Project complies with all applicable laws, ordinances, regulations, and standards, and may therefore be licensed. It is based exclusively upon the record established during these certification proceedings and summarized in this document. We have independently evaluated this evidence, provided references to the record¹ supporting our findings and conclusions, and specified the measures required to ensure that the Otay Mesa Generating Project is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

The Otay Mesa Generating Company (a subsidiary of PG&E Generating) filed an Application for Certification (AFC) that proposes to develop a nominal 510-megawatt (MW) natural gas-fired power plant in the Otay Mesa area in San Diego County. The Project, as proposed, will be located on a 15-acre parcel within a 46-acre property on the eastern portion of the Otay Mesa. The site is approximately 15 miles southeast of the City of San Diego, near the western base of the San Ysidro Mountains and about 1.5 miles north of the United States/Mexico border.

The 46-acre property is about 800 feet east of Alta Road and 1,500 feet north of Otay Mesa Road. The site is undeveloped and consists primarily of fallow agricultural land. It is zoned for mixed industrial uses in an area planned for industrial and commercial development. Land uses in the area include the Donovan State Correctional Facility to the northwest, and several businesses located at the former Kuebler Ranch to the north of the site. The access route to the site is Otay Mesa Road, turning north on Alta Road.

¹ All references to the Reporter's Transcript appear as date RT page. The dates refer to 2000 unless otherwise noted. Exhibits that were included in the evidentiary record are cited as Ex. number. A list of all exhibits is contained in Appendix C of this Decision.

The natural gas-fired combined cycle power plant will generate up to 510 MW of electricity. It includes two power islands, each of which will include a combustion turbine generator, a heat recovery steam generator with duct burners, air-cooled condensers and a steam turbine generator that may be shared depending on the choice of F-class turbine that is chosen.

The project includes a new 230 kilovolt (kV) switchyard, with a 0.1-mile connection to San Diego Gas & Electric's (SDG&E) existing 230 kV Miguel-Tijuana transmission line that passes near the eastern boundary of the proposed site. A 9.05-mile section of this existing line will be modified to accommodate the addition of new conductors on existing towers, between the interconnection point east of the plant site and SDG&E's Miguel Substation. The project owner will construct two new natural gas pipelines to supply fuel to the project. The gas pipelines will connect to SDG&E's Pipeline 2000 at the Harvest Regulator Station and to the SDG&E metering station at the Mexican border, where an extension will be built to interconnect with the prospective North Baja Pipeline.

The project will use dry cooling technology, which significantly reduces daily water consumption compared with power plants that use wet cooling. Process water for steam generation and potable water for domestic needs will be supplied by the Otay Water District via a 0.2-mile pipeline connection to an existing water main in Alta Road. Plumbing will also be installed to accommodate recycled water for processing when supplies are available to the site. A 2-mile wastewater discharge line will interconnect with the sewerage system in Johnson Canyon.

The Otay Mesa Generating Project is the 14th merchant power plant to be licensed by the Energy Commission. Its electrical output will be sold into the wholesale power market, through bilateral sales agreements, and according to prospective reliability must run (RMR) contracts with the California Independent System Operator (Cal-ISO). Project construction is expected to commence in the third quarter of 2001; capital costs are estimated at \$350 million. The project

will provide 361 construction jobs at peak employment, as well as 24 permanent operational jobs. Full-scale commercial operation is anticipated by fourth quarter of 2003.

Extensive coordination occurred in the process with numerous local, state, and federal agencies. Applicant and Commission staff worked with the San Diego County Planning Department, the San Diego County Air Pollution Control District (SDCAPCD or Air District), the California Air Resources Board (CARB), the U.S. Environmental Protection Agency (USEPA), the United States Fish & Wildlife Service, the California Department of Fish and Game, the California Department of Health Services, U.S. Army Corps of Engineers, the Regional Water Quality Board, the Otay Water District, San Diego County Fire Department, the Rural Fire Protection District, the California Department of Transportation (Caltrans), the California Independent System Operator (Cal-ISO), as well as Intervenor Save Our Bay, Inc., Duke Energy of North America (DENA or Duke), California Unions for Reliable Energy, Cabrillo I, an indirect subsidiary of NRG Energy, Inc., San Diego Gas & Electric (SDG&E), and Ms. Holly Duncan.

SDCAPCD was responsible for coordinating input from the USEPA and CARB, in consultation with Commission staff, in drafting its Final Determination of Compliance (FDOC) on the project's conformity with state and federal air quality standards. OMGP has provided more than sufficient offsets to comply with SDCAPCD's requirements. OMGP will use Mobile Emission Reduction Offsets (MERCs) as part of its offset package approved by the Air District. This is the first successful attempt in California to develop a MERC program. The SDCAPCD has incorporated this program in its Rules and has requested USEPA to certify portions of the MERC criteria as part of the SIP program in the San Diego area. The project will use the best available control technology (BACT), identified by SDCAPCD, to reduce emissions to levels of insignificance. OMGP proposes to install SCONOX technology as an alternative to SCR. If SCONOX is successful, the project will achieve a NO_x emission level of 1.0 ppmvd (at 15%

O2) over a 24-hour period. The conditions imposed by SDCAPCD are incorporated into this Decision.

Intervenors Cabrillo and DENA contended that the OMGP would exacerbate existing gas distribution constraints in the San Diego area, causing gas curtailments to the Encina and South Bay power plants that would then have to burn fuel oil to meet electricity demand. The Intervenors asserted that fuel oil burns and any attendant adverse impacts to regional air quality should be attributed to OMGP. The evidence regarding this issue was too speculative to support a finding of any nexus between OMGP and fuel oil burns by Encina and South Bay.

In the alternative, Intervenors argued that OMGP would cause an imbalance in the import of power that does not rely on SDG&E gas distribution and therefore, the project would adversely impact system reliability. The weight of the evidence, however, indicated that OMGP is more efficient and more reliable than the older Encina and South Bay plants and would more likely relieve gas constraints than cause additional curtailments. Further, the prospective North Baja Pipeline will alleviate the demand on SDG&E to supply OMGP.

The site is included in the Multiple Species Conservation Program study area, which is one of three subregional habitat planning efforts in San Diego County. The OMGP's Biological Resource Mitigation Implementation and Monitoring Plan (BRMIMP) includes biology mitigation measures required by the Commission as well as local, state, and federal permitting agencies. Under the BRMIMP, the project owner will avoid sensitive habitat and provide a compensation program to mitigate potential impacts to the Quino checkerspot butterfly as well as other sensitive species.

The site is served by the San Diego County Fire Department and the Rural Fire Protection District. The project owner will negotiate a mitigation package with the

fire protection agencies to provide funding for additional equipment and training for staff to accommodate emergency services to the project.

The OMGP will also participate in pro-rated mitigation compensation plans and roadway redesign to alleviate anticipated traffic congestion in the East Otay development area where several industrial and commercial projects are planned.

The project will provide annual property taxes of approximately \$2.7 million that will accrue to San Diego County for allocation to county government agencies, city governments, the county fire department, special districts, and county school districts.

B. SITE CERTIFICATION PROCESS

The Otay Mesa Generating Project and its related facilities are subject to Energy Commission licensing jurisdiction. (Pub. Resources Code, // 25500 et seq.). During licensing proceedings, the Commission acts as lead state agency under the California Environmental Quality Act (Pub. Resources Code, // 25519 (c), 21000 et seq.). The Commission's process and associated documents are functionally equivalent to the preparation of the traditional Environmental Impact Report. (Pub. Resources Code, / 21080.5.) The process is designed to complete the review within a specified time period; a license issued by the Commission is in lieu of other state and local permits.

The Commission's certification process provides a thorough and timely review and analysis of all aspects of this proposed project. During this process, we conduct a comprehensive examination of a project's potential economic, public health and safety, reliability, engineering, and environmental ramifications.

Specifically, the Commission's process allows for and encourages public participation so that members of the public may become involved either informally, or on a more formal level as Intervenor with an opportunity to present

evidence and cross-examine witnesses. Public participation is encouraged at every stage of the process.

The process begins when an Applicant submits the Application for Certification (AFC). Commission staff reviews the data submitted as part of the AFC and recommends to the Commission whether the AFC contains adequate information to begin the review. Once the Commission determines an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the licensing process. This process includes public conferences and evidentiary hearings, where the evidentiary record is developed and becomes the basis for the Presiding Member's Proposed Decision (PMPD). The PMPD determines a project's conformity with applicable laws, ordinances, regulations, and statutes and provides recommendations to the full Commission.

The initial portion of the certification process is weighted heavily toward assuring public awareness of the proposed project and obtaining such technical information as necessary. During this time, the Commission staff sponsors numerous public workshops at which Intervenor, agency representatives, and members of the public meet with Staff and Applicant to discuss, clarify, and negotiate pertinent issues. Staff publishes its initial technical evaluation of a project in a document called the "Preliminary Staff Assessment (PSA)," which is made available for public comment. Staff's responses to public comment on the PSA and its complete analyses are published in the Final Staff Assessment (FSA).

Following this, the Committee conducts a Prehearing Conference to assess the adequacy of available information, identify issues, and determine the positions of the parties. Based on information presented at this event, the Committee issues a Hearing Order to schedule formal evidentiary hearings. At these hearings, all entities that have formally intervened as parties may present sworn testimony, which is subject to cross-examination by other parties and questioning by the

Committee. Members of the public may present comments at these hearings. Evidence adduced during these hearings provides the basis for the Committee's analysis and recommendation to the full Commission.

The Committee's analysis and recommendations appear in the Presiding Member's Proposed Decision (PMPD), which is available for a 30-day public comment period. Depending upon the extent of revisions necessary after considering comments received during this period, the Committee may elect to publish a revised version. If so, this Revised PMPD triggers an additional 15-day public comment period. Finally, the full Commission decides whether to accept, reject, or modify the Committee's recommendations at a public hearing.

Throughout the licensing process, members of the Committee, and ultimately the Commission, serve as fact-finders and decision-makers. Other parties, including the Applicant, Commission staff, and formal intervenors, function independently with equal legal status. An "ex parte" rule prohibits parties from communicating on substantive matters with the decision-makers, their staffs, or assigned hearing officer unless these communications are made on the public record. The Office of the Public Adviser is available to inform members of the public concerning the certification proceedings, and to assist those interested in participating.

C. PROCEDURAL HISTORY

Public Resources Code, sections 25500 et seq. and Commission regulations (20 Cal. Code of Regs., / 1701, et seq.) mandate a public process and specify the occurrence of certain necessary events. The key procedural elements that occurred in the present case are summarized below.

On August 2, 1999, the Otay Mesa Generating Company (a subsidiary of PG&E Generating) filed its Application for Certification (AFC) seeking approval from the Commission to construct and operate a nominal 510-megawatt (MW) natural gas-

fired power plant. On October 6, 1999, the full Commission accepted the AFC as data adequate in order to commence the 12-month review process.

The Committee published a notice of "Informational Hearing and Site Visit" on October 18, 1999. The notice was sent to all entities who were known to be interested in the proposed project, including the owners of property adjacent to, or in the near vicinity of, OMGP. The notice was also published in the San Diego Union on Wednesday, November 10, 1999.

The Committee conducted an Informational Hearing at the Chula Vista Public Services Building, Council Chambers, in Chula Vista, on Monday, November 15, 1999. At this event, the Committee and other participants discussed the proposed project, described the Energy Commission's review process, and identified the opportunities for public participation. The parties also toured the site where the project will be situated.

Subsequently, Commission staff scheduled several public workshops to discuss project details with agencies and members of the public. These workshops were held either in Chula Vista, San Diego, or via teleconference in Sacramento. The Staff-sponsored workshops were scheduled for November 16, December 8 and 9, 1999, and January 27, February 25, May 5, 18, June 5, 22, July 25, August 23, September 6, 20, October 18, and November 19, 2000.

The Committee issued a Scheduling Order on November 29, 1999. A Revised Committee Scheduling Order was issued on March 22, 2000. In addition, the Committee issued a Second Revised Scheduling Order on May 25, and a Third Revised Scheduling Order on August 1, 2000. Pursuant to the Third Order and following additional case development, Commission staff released its Preliminary Staff Assessment (PSA) on August 18, 2000. Subsequent to the release of the PSA, the Committee conducted Status Conferences on March 2, 2000, May 22, and July 25, 2000, to review the 12-month schedule and evaluate issues of

concern to the parties. The July 25th Status Conference was dedicated to issues regarding natural gas constraints in the SDG&E delivery system. On October 30, 2000, the Committee conducted a Prehearing Conference to assess the status of the case and determine whether substantive issues required adjudication.

The Final Staff Assessment (FSA) Part 1 was filed on October 13, 2000 and FSA Part 2 on October 27, 2000. Evidentiary hearings were conducted in San Diego on November 13, 14, 20, 21 and in Sacramento on December 4, 2000.

Intervenor Cabrillo Power filed a request for a written Order of a ruling made at the November 14 evidentiary hearing. The Committee issued an Order on November 28, 2000, reiterating the Committee ruling on issues raised by Cabrillo concerning potential natural gas curtailment and alleged impacts on system reliability in the SDG&E service area.

On December 4 and December 15, 2000, Cabrillo filed Interlocutory Appeals of the Committee's rulings on gas curtailment issues and on its denial of additional hearing dates to present more evidence on issues. On January 17, 2001, the Commission issued an Order Denying Interlocutory Appeals.

Subsequent to the close of evidentiary hearings on December 4, 2000, the Committee added Exhibits 105 through 114 to the official List of Exhibits. Several of these Exhibits are documents requested by the Committee; other Exhibits are permits or agency approvals required by the Conditions of Certification. If any party has objection to the receipt of any of these Exhibits into the record, there will be an opportunity to file your objection at the Committee Conference.

After reviewing the evidentiary record, the Committee published its Presiding Member's Proposed Decision on March 12, 2001. The 30-day comment period on the PMPD will end on April 12, 2001.

The Committee will conduct a public conference on Friday April 6, 2001, in San Diego, to review comments on the PMPD. If there are no comments that would change the substantive findings and conclusions contained in the PMPD, the Commission will conduct a hearing and consider adoption of the PMPD along with any Errata (containing clarifications and corrections based on comments) at the Business Meeting on April 18, 2001.

I. PROJECT PURPOSE AND DESCRIPTION

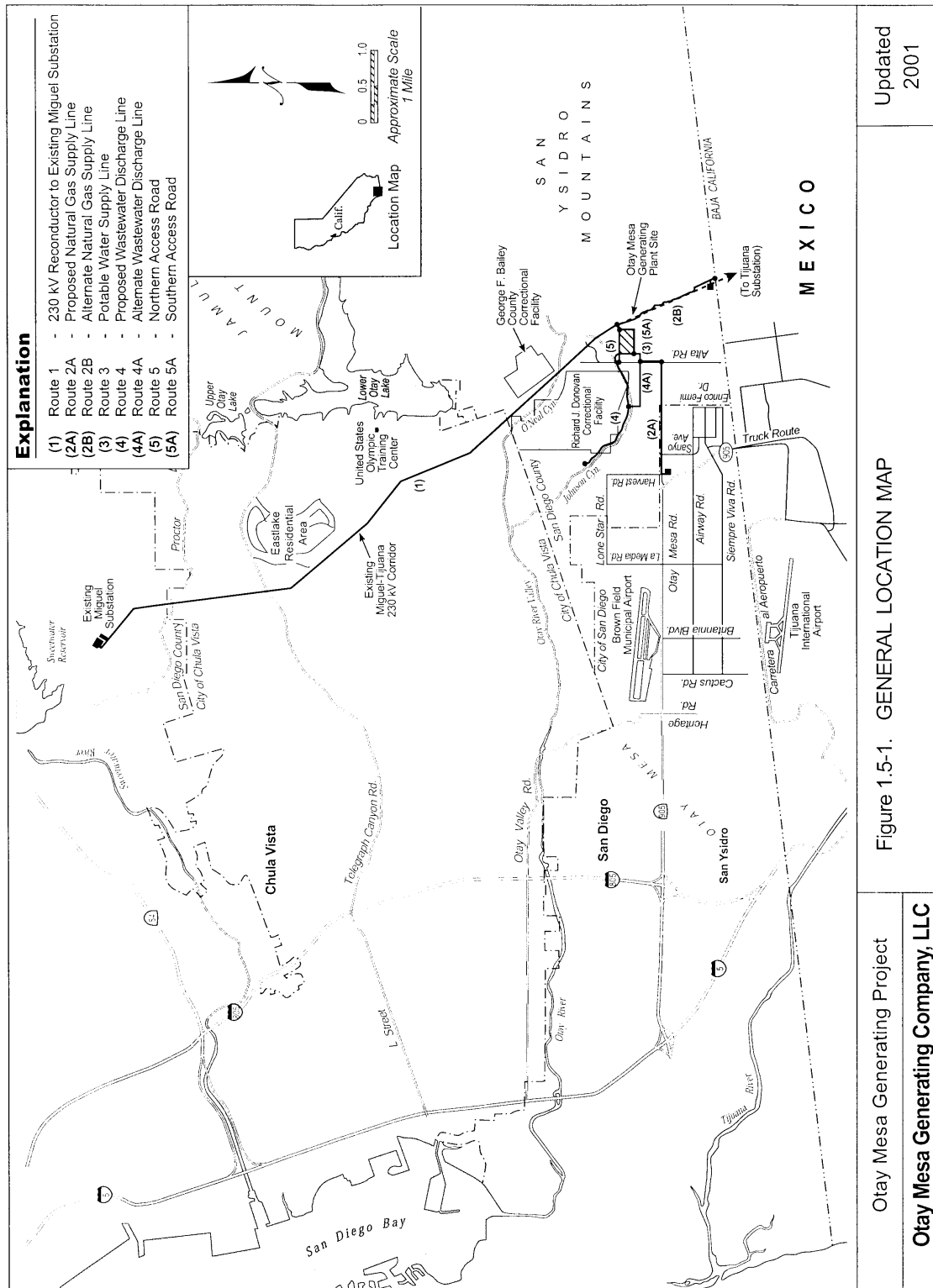
The Otay Mesa Generating Company, LLC (“Applicant”), a subsidiary of PG&E National Energy Group² (PG&E), proposes to develop the Otay Mesa Generating Project (OMGP), a nominally rated 510 megawatt (MW) natural gas-fired merchant class power plant to be located in the East Otay Mesa region of San Diego County. (Ex. 1, § 3.1.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is located approximately 15 miles southeast of downtown San Diego at the base of the San Ysidro Mountains and about 1.5 miles north of the United States/Mexico border. The power plant will be situated on a 15-acre parcel within a 46-acre property northeast of the intersection of Otay Mesa and Alta Roads. The property is currently undeveloped and consists primarily of fallow agricultural land that is part of an industrial/commercial development area zoned for mixed industrial uses in accordance with the San Diego County East Otay Mesa Specific Plan. Land uses in the vicinity include rural agricultural, the Richard J. Donovan State Correctional Facility to the northwest, and several businesses located at the former Kuebler Ranch to the north. (Ex. 1, §§ 1.5.1, 3.2.2.) See the project location maps shown in Figure 1.5-1 and Map 1.5-1 below, replicated from Exhibit 1 and updated to reflect the evidentiary record.

A portion of the Miguel-Tijuana 230 kilovolt (kV) transmission line, owned by San Diego Gas and Electric Company (SDG&E), is located adjacent to the eastern boundary of the property. The nearest residences are approximately 1.3 miles to the southwest along Otay Mesa Road. (Ex. 67, p. 3.)

² Calpine Corporation will acquire 100% of Otay Mesa Generating, LLC from PG&E National Energy Group after project certification. Under the agreement, Calpine will build, own, and operate the Otay Mesa project, and affiliates of PG&E National Energy Group will contract for up to 250 MW of the project’s output. (Ex. 110: Letter to Commissioner Robert Laurie from PG&E National Energy Group, dated January 8, 2001.)



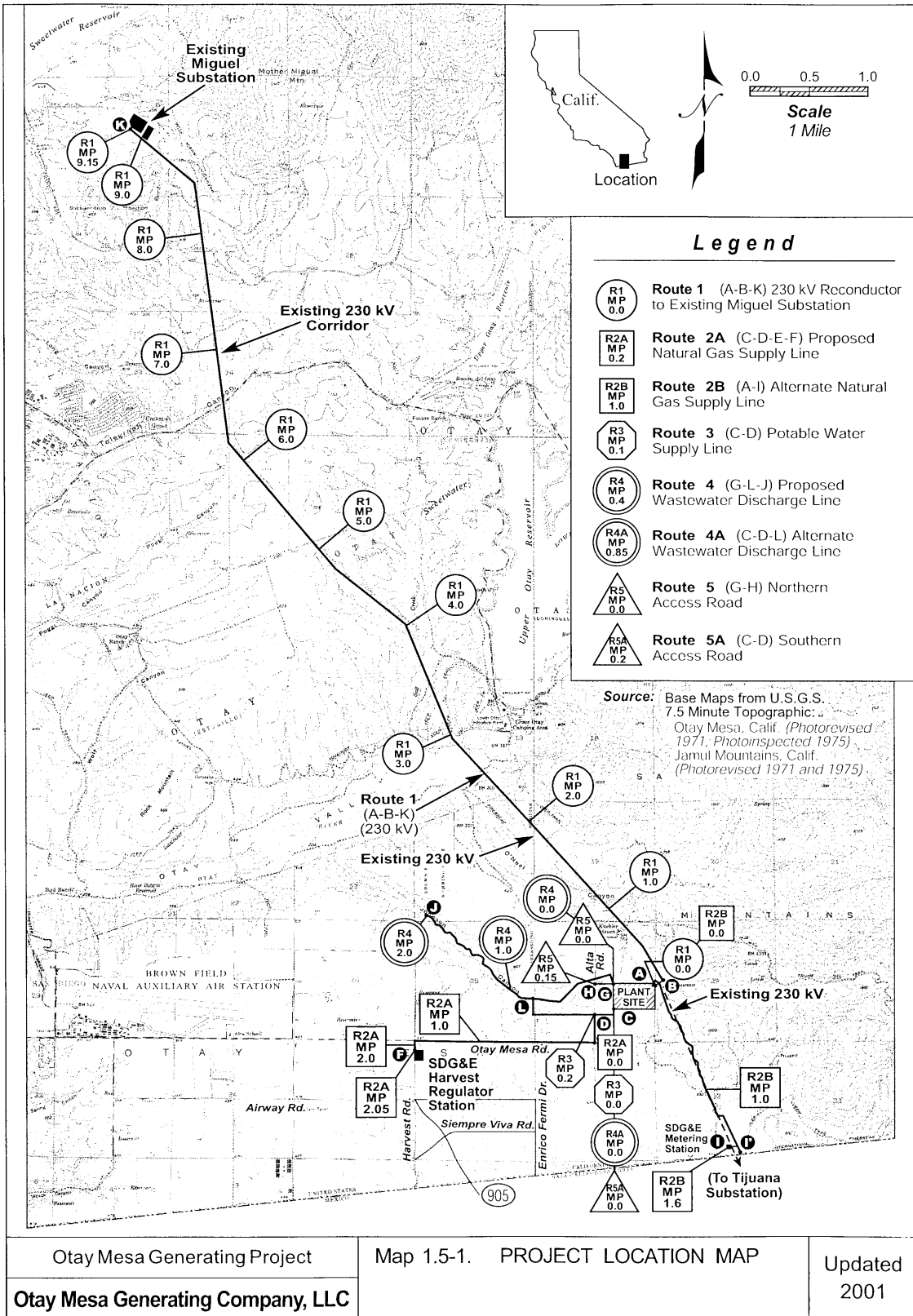
The project is a natural gas-fired combined cycle power plant. It will include two power islands, air cooled condensers, a new 230 kV switchyard, an administration building, storage tanks, parking area, and ancillary facilities. The power islands will consist of an F-class combustion turbine generator (CTG) nominally rated at 170 MW, a heat recovery steam generator (HRSG), a 131-foot tall HRSG exhaust stack, and either a nominally rated 90 MW steam turbine generator (STG) for each power train or one shared STG nominally rated at 180 MW.³ (Ex. 1, §§ 1.5.2, 3.2.1; Ex. 109.) Total net output of each unit is approximately 255 MW with a combined nominal output of 510 MW.⁴ Ancillary facilities include a new transmission line interconnection, two natural gas pipeline interconnections, water supply and discharge pipelines, and a new access road. See Project Components Map 1.5-1 below, replicated from Exhibit 1 and updated.

The project will interconnect with SDG&E's electric transmission system via two parallel 0.1 mile 230 kV outlet loop lines from the project switchyard to the Miguel-Tijuana transmission line. As a result of this interconnection, the project owner is required to reconductor the Miguel-Tijuana transmission line for approximately 9.05 miles between the interconnection point and SDG&E's Miguel substation. (Ex. 1, § 3.1.2; Ex. 52, p. 3.)

Applicant has proposed two gas pipeline routes. See Map 1.5-1, below. Route 2A is approximately 2.05 miles long, traverses 0.2 miles of undeveloped land west to Alta Road and continues within the paved portions of Alta, Otay Mesa, and Harvest Roads to its termination at the SDG&E Harvest Regulator Station, where it will interconnect with SDG&E's Pipeline 2000 project. (Ex.

³ On February 16, 2001, Applicant filed a revised site layout plan that provides for a two-on-one combined cycle arrangement as an alternative to the initially proposed two-on-two arrangement. Applicant requests that the certification include this option to allow flexibility depending on the availability of turbines from ABB, Westinghouse, or General Electric. (Ex. 109.)

⁴ This nominal 510 MW rating is based upon preliminary design information and generating equipment manufacturers' guarantees. The project's actual maximum generating capacity may differ from, and possibly exceed, this figure. If the project's actual generating capacity should exceed this nominal rating using the equipment described in the record of evidence, no conditions of certification would be violated.



64, p. 18; Ex. 67, p. 2.) Route 2B is approximately 1.7 miles long. From the project site it follows an existing road eastward (except for about 200 feet). It then travels south within existing access roads that run along the Miguel-Tijuana transmission line for about 1.5 miles terminating at a SDG&E metering station just north of the US/Mexico border. An extension of about 200 feet would then run south to the border where a new valve/metering station would be built to interconnect with the North Baja Pipeline project currently proposed by Sempra International and PG&E Gas Transmission Corporation. (Ex. 67, pp. 1-2; Ex. 75, North Baja Pipeline Application to FERC.) Applicant seeks certification of both the gas pipeline interconnections. (*Ibid.*)

Since recycled water cannot feasibly be delivered to the project site at the present time, the project will use potable water provided by the Otay Water District. (Ex. 43: "Will Serve" letter; Ex. 64, p. 17; 11/20 RT 48-50.) Applicant will construct a 0.2-mile pipeline from the plant to an existing District water main in Alta Road. Applicant will also install appropriate plumbing for recycled water in the event that it becomes available during the project lifetime. (11/20 RT 48-49.) Project water requirements include service water for steam cycle makeup treatment and steam injection, as well as fire protection and other plant needs. (Ex. 1, § 3.4.7.3.1.) The project will employ dry cooling technology, which relies on air cooled condensers to significantly reduce daily water consumption compared with the amount of water that would otherwise be required for standard wet cooling technology. (Ex. 64, p. 18.)

Applicant will construct a 2-mile long wastewater discharge pipeline to an interconnection point in Johnson Canyon. (Ex. 1, §§ 3.7.4, 1.8.4.) In response to a request from San Diego County, Applicant added an 0.85-mile alternative wastewater discharge line route that interconnects with a new extension of Lone Star Road and then joins the original route. (Ex. 64, pp. 2, 18.)

The project includes a new 0.15-mile long 2-lane private access road that will connect the site to Alta Road. (Ex. 1, § 1.5.9.) The road will be 30-40 feet wide on a 60-foot wide base and will be surfaced with gravel or asphalt to handle

heavy truck deliveries and other project traffic. (Ex. 1, §§ 3.7.5, 3.8.3.4.) During construction, portions of the 46-acre site will be used for temporary laydown and construction parking areas. (Ex. 1, § 3.8.2.2.)

Applicant will install either SCONOX or SCR and dry low NOx combustors to achieve Best Available Control Technology/Lowest Achievable Emission Rate (BACT/LAER). (Ex. 64, p. 17.) The San Diego County Air Pollution Control District has established a NOx permit level of 2.0 ppm, based on a three-hour rolling average. Applicant proposes a target NOx emission level of 1.0 ppm. If SCONOX is used, CO will be controlled by a combination of combustion control and SCONOX technology. If SCR is used, CO will be controlled by a combination of combustion control and an oxidation catalyst. (Ex. 64, p. 17.)

Applicant's offset proposal involves both stationary and mobile sources. NOx offsets and volatile organic compounds (VOCs) for NOx offsets will be purchased from the stationary sources market, as well as from mobile sources for mobile emission reduction credits (MERCs). (Ex. 64, p. 17.) In a cooperative effort to develop this innovative program, Applicant worked with the San Diego County Air Pollution Control District, Energy Commission staff, the California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (USEPA) to obtain approval of its proposal. The use of MERCs is discussed in the **Air Quality** section of this Decision.

The project site lies within the Multiple Species Conservation Program study area, which is one of three subregional habitat planning efforts in San Diego County that contribute to preservation of regional biodiversity. (Ex. 1, § 1.8.4.) Applicant's Biological Resource Mitigation Implementation and Monitoring Plan (BRMIMP) includes biology mitigation measures required by the Commission as well as the local, state, and federal permitting agencies. (Ex. 64, pp. 18-19.) Under the BRMIMP, Applicant will avoid sensitive habitat and provide a compensation program to mitigate potential impacts to the Quino checkerspot butterfly in accordance with guidance provided by the San Diego County Biological Mitigation Ordinance. (*Ibid.*)

Applicant will begin project construction in the third quarter of 2001 and will commence commercial operation by the fourth quarter of 2003. During the construction phase, the project will employ an average of 230 workers with an estimated peak workforce of 361 workers. During operation, the project will employ approximately 24 fulltime staff. (Ex. 67, p. 2.) The project has a design life of 30 years. (Ex. 1, § 2.1.) Applicant anticipates that the total capital costs associated with the project will be approximately \$350 million. (Ex. 1, § 6.0.)

The power plant is designed as a baseload facility to sell electricity via bilateral agreements and in the wholesale competitive market. The project will also compete for a Reliability Must Run (RMR) contract with the California Independent System Operator to provide capacity in the San Diego region. (Ex. 1, §§ 1.3.2, 2.2; Ex. 64, p. 22.)

FINDINGS AND CONCLUSIONS

1. Applicant proposes to construct and operate the Otay Mesa Generating Project, a nominal 510 MW combined cycle natural gas power plant consisting of two power islands, a new 230 kV switchyard, other power generation equipment, emission control equipment, and ancillary facilities.
2. The project site is located in the East Otay Mesa region of San Diego County in an area designated by the San Diego County East Otay Mesa Specific Plan for commercial/industrial development.
3. Linear facilities include a new transmission line interconnection, gas pipeline interconnections, water supply and discharge pipelines, and a new access road.

We conclude that the Otay Mesa Generating Project is described in sufficient detail to allow review in compliance with the provisions of both the Warren-Alquist Act and the California Environmental Quality Act (CEQA).

II. NEED CONFORMANCE

Prior to January 1, 2000, the Public Resources Code directed the Commission to perform an integrated assessment of need, taking into account 5 and 12-year forecasts of electricity supply and demand, as well as various competing interests, and to adopt the assessment in a biennial electricity report. In certification decisions, the Commission was required to find that a proposed power plant was in conformance with the Commission's integrated assessment of need for new resource additions. [Pub. Resources Code, §§ 25523 (f) and 25524(a).]

Effective January 1, 2000, Senate Bill 110 (Stats. 1999, ch. 581) repealed Sections 25523(f) and 25524(a) of the Public Resources Code, and amended other provisions relating to assessment of need for new resources. Specifically, it removed the requirement that the Commission make a finding of need conformance in a certification decision. Senate Bill (SB) 110 states in pertinent part:

Before the California electricity industry was restructured, the regulated cost recovery framework for powerplants justified requiring the commission to determine the need for new generation, and site only powerplants for which need was established. Now that powerplant owners are at risk to recover their investments, it is no longer appropriate to make this determination. (Pub. Resources Code, § 25009, added by Stats. 1999, ch. 581, § 1.)

As a result of this legislation, an application for certification (AFC) that reaches final Commission decision after January 1, 2000 is not subject to a determination of need conformance. Since the final decision on the AFC in this case will occur *after* January 1, 2000, the Commission is not required to include a need conformance finding.

Notwithstanding SB 110, Applicant submitted testimony regarding the genesis of the project, which was developed in response to the capacity deficit in the San Diego area. (Ex. 1, § 1.3.) Applicant stated that [a]ccording to the California

Independent System Operator (Cal-ISO), San Diego is one of the most high risk areas of the state from an electrical reliability and planning standpoint. (*Id.*,/ 1.3.2; see also, 11/13 RT 28, 31:12-18.) Intervenors Cabrillo Power and Duke Energy North America (DENA) asserted that the OMGP would negatively impact system reliability in the San Diego region. This assertion is discussed at length in the chapters on **Power Plant Reliability** and **Transmission System Engineering**. In light of the current energy crisis in California, however, there is no question that additional capacity in San Diego is necessary. The more relevant inquiry is whether the project's 510 MW will be delivered to the SDG&E service area or to California after the project commences commercial operation. Although the Commission has authority to certify that the project proposal complies with applicable law, the allocation of generation remains with the Legislature and the deregulated marketplace.

III. PROJECT ALTERNATIVES

This analysis describes a range of feasible site and facility alternatives that would attain the basic objectives of the proposed project but would avoid or substantially lessen potentially significant environmental impacts. (Cal. Code of Regs., tit. 14, / 15126(d) and tit. 20, / 1765.) The range of alternatives that we are required to consider is measured by the rule of reason and need not include those alternatives whose effects cannot reasonably be ascertained and whose implementation is remote and speculative. [*Id.* at tit. 14, / 15126(d)(5).]

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence of record describes the methodology used to analyze project alternatives and includes a discussion of alternative technologies and alternative sites as well as the no project alternative. (Ex. 64, pp. 355-356.)

1. Methodology

Staff used the following methodology in preparing the alternatives analysis:

- Identify basic project objectives;
- Identify any potentially significant environmental impacts of the project;
- Evaluate feasible alternative generation technologies;
- Evaluate the no project alternative;
- Identify and analyze feasibility of alternative sites; and
- Evaluate whether alternative technologies and/or alternative sites would reduce or significantly avoid potential significant impacts.

Staff initially found that the project posed potentially significant impacts in the technical areas of air quality, biological resources, and visual resources. Applicant has agreed to implement measures that mitigate all potential impacts to

insignificant levels. Therefore, the evidentiary record indicates there are no unmitigated impacts to the environment or public health and safety. (See, generally, the Findings and Conclusions for each technical topic.)

2. Project Objectives

Analysis of project alternatives begins with an identification of Applicant's project objectives, which are identified below. (Ex. 1, /3.11.9.)

- To construct and operate a merchant power plant in southwest San Diego County to sell power into the wholesale competitive market, provide reliability to the San Diego grid, provide ancillary services, and sell power on a bilateral basis.
- To locate the facility on land that is zoned for industrial use and in close proximity to existing key infrastructure, such as a natural gas fuel supply, an electric transmission line, water supply and sewer lines.
- To minimize project environmental and socioeconomic impacts.
- To use proven technology, while taking advantage of recent developments in emission control equipment and water conservation technology.
- To minimize project capital and operating costs and to maximize project revenues to allow project financing on reasonable terms.

By letter dated January 8, 2001, Applicant notified the Commission of its intent to sell the project to Calpine Corporation after certification.⁵

3. No Project Alternative

Staff and Applicant referred to the California Independent System Operator's (Cal-ISO) determination that additional generation is required in the San Diego region. (Ex. 1, // 1.3.1, 3.11.9; Ex. 3, / 1.3; and Ex. 64, p. 357.) According to

⁵ See, January 8, 2001 letter from PG&E National Energy Group to Commissioner Laurie indicating the intent of PG&E to sell the OMGP to Calpine Corporation after certification. (Ex. 110.)

Applicant, the OMGP would help fill the gap between needed generation and existing assets; therefore, the no project alternative would not meet the state's requirement for new, efficient generation to remedy the deficit in available generating capacity. (*Ibid.*)

Staff indicated that no project would avoid all environmental impacts associated with project construction and operation, resulting in an environmentally superior alternative to the proposed project. (Ex. 64, p. 357.) Rather than locating the project in Otay Mesa, Staff posited that generation projects that have been certified in other areas of the state could meet demand in the San Diego area via new transmission lines to the San Diego grid. However, neither Cal-ISO nor SDG&E believe this is a feasible alternative due to delays inherent in constructing transmission systems for different utilities across several local jurisdictions. Moreover, Staff concluded that transmission projects generally involve at least as many environmental impacts as generation projects. (*Ibid.*)

Staff recognized that if the OMGP is not built, another generation project with similar environmental effects is likely to be proposed in the Otay Mesa area because it represents the highest concentration of industrially zoned land in San Diego County. Given the increased demand for power in the San Diego region, it would be naïve to believe that the no project alternative is viable. (Ex. 64, p. 358.) Staff agreed with Applicant's assessment that the no project alternative conflicts with the state's policy for expediting additional generation with the most efficient and environmentally protective features currently available to the industry. (*Ibid.*)

4. Smaller Size Project Alternative

The Committee directed Staff to analyze smaller project alternatives at the proposed site. According to Staff, a facility smaller than 500 MW at the same site would meet some of the project goals described above. A 250 MW project would

have environmental impacts similar to those of the larger project, using the combined cycle design. Although the air emission offset requirement would be lower, the project would produce proportionally less power. (Ex. 97, p. 2.) To attain the project's objective of providing 500 MW, Staff believes it would be necessary to develop two 250 MW facilities at two different sites, thus increasing potential for project-related impacts to the area. (*Ibid.*)

A project less than 50 MW would most likely be used to meet peak electricity demand, making this alternative less favorable than the proposed baseload project. Staff acknowledged that a peaking project could be planned, permitted, and built in a short time frame to meet immediate electricity demands.⁶ (Ex. 97, p. 2.) However, air quality impacts and efficient use of natural gas would be significantly worse than the proposed project. The project objective of 500 MW would have to be achieved by building ten 49.9 MW peaking units, creating significantly more disturbance and impacts to the environment and public health and safety than the proposed project. (*Id.* at pp. 3-4.)

Staff's analysis found that use of 5 MW advanced turbine system (ATS) units would result in higher NOx emission levels and less efficient use of natural gas than the 500 MW project. It would be necessary to site one hundred 5 MW ATS units, which would involve new rules for multiple interconnections to the transmission grid. Although ATS units are typically housed in existing industrial facilities eliminating potential for biological and other ground-disturbing impacts, the aggregated impacts to air quality and lower gas efficiency would result in greater overall air quality impacts than the proposed project. (Ex. 97, pp. 4-5.)

Intervenor Holly Duncan proposed the use of gas-fired microturbine distributed generation. (Ex. 69.) Staff found that the microturbine alternative is conceptually similar to the analysis for the 5 MW ATS unit. However, air pollutant emissions

⁶ Projects less than 50 MW are permitted by local jurisdictions and do not require Energy Commission review.

are significantly higher and fuel efficiency is lower than that of the ATS units. The microturbine produces electricity at the kilowatt level, requiring thousands of units to meet the project objective of 500 MW. According to Staff, the logistics would be staggering. (Ex. 97, p. 5.) Staff believes that use of microturbine would be the least feasible and most environmentally damaging alternative. (*Ibid.*) Applicant's review of Ms. Duncan's proposal confirmed Staff's view, noting that microturbine installations are not required to purchase NOx offsets. (Ex. 61, p. 9.)

5. Technology Alternatives

Intervenor Save Our Bay argued that conservation measures should reduce the need for fossil-fuel power plants. (Ex. 71.) California has implemented several energy efficiency and demand side management programs in an effort to reduce electricity demand. However, these conservation programs are not considered in the alternatives analysis because their cumulative effect is not sufficient to provide the additional generation required by the state.⁷ (Ex. 64, p. 358.)

Staff considered the alternative of renewable technologies, such as geothermal, hydroelectric, wind, biomass, and solar, scaled to meet project objectives. These non-fossil fuel technologies are more environmentally attractive than the OMGP due to reduced air pollutant emissions. (Ex. 64, p. 359.) However, geothermal resources are not available in the San Diego region. Moreover, new centralized wind, solar, or biomass facilities are not feasible alternatives because they would require large land areas, resulting in significant land use, biological, cultural resource, and visual impacts. Biomass on a large scale would also be an inferior

⁷ Public Resources Code, section 25305(c) presumes that the effect of such programs is included in the Commission's integrated assessment of need (IAN) for additional capacity. Although the Warren-Alquist Act was amended to delete the Commission's mandate to conduct a periodic IAN, the Commission's most recent IAN determination in the 1996 *Electricity Report* concluded that conservation programs alone cannot displace the need for additional power generation in California. (Ex. 64, pp. 358-359; see discussion on **Need Conformance** in this Decision.)

alternative because pollution from wood burning is more harmful than emissions from natural gas combustion. (*Id.* at p. 360.)

Intervenor Save Our Bay was particularly concerned about global warming caused by CO₂ emissions from the project and submitted several studies and other information on the benefits of photovoltaic and fuel cell technology. (Ex. 71.) In response, Staff submitted testimony on renewable distributed generation options. The Commission's Emerging Renewables Buy-Down Program provides subsidies for residences and small businesses to pay partial costs of certain grid-connected renewable energy systems, including rooftop photovoltaics (PV), small wind turbines, fuel cells, and solar thermal systems. (Ex. 64, pp. 359-360; Ex. 74, Testimony of Arthur Soinski; 11/13/00 RT 121 et seq.) The California utilities also have a variety of buy-down programs available to fund PV installations on rooftops or as research and development projects. (*Ibid.*) Although the subsidy programs have established the viability of these alternative technologies on a small scale distributed generation basis, Staff concluded that the technologies are not economically feasible on a scaled-up basis. (*Ibid.*)

6. Site Alternatives

The alternatives analysis includes a review of feasible site options available to the Applicant. Staff considered the following screening criteria in identifying feasible site alternatives:

- Site suitability: approximately 15 acres are required for the site.
- Availability of infrastructure: the site should be within a reasonable distance of the electric transmission system, natural gas supply, and water supply.
- Availability of the site.
- General Plan and zoning consistency.

- Not located adjacent to moderate or high-density residential areas or to sensitive receptors (such as schools and hospitals) or to recreation areas.

Given the insignificant level of potential impacts identified for the proposed site, Staff agreed with Applicant's conclusions that the Otay region is a reasonable location for the project because it is an undeveloped industrially-zoned area several miles from planned residential communities. (Ex. 64, p. 362.) Applicant's site screening factors specific to the Otay region included i) compatibility with the Brown Field Municipal Airport and the Tijuana International Airport; ii) avoidance of biologically sensitive areas; and iii) site availability. (Ex. 4, /3.11.2.1.)

Applicant considered three different sites in the Otay area. (Ex. 4, /3.11.2.1.) See, Figure 3.11-1 replicated from Exhibit 1, below. Site A was rejected because it is in the middle of a commercial and warehousing area, close to a residential development in Tijuana, and has the longest transmission interconnection and a poor sewer interconnection. Site B was rejected because it is not available and also has a poor sewer connection. Site C (the preferred site) has a willing seller, is the most compatible with the future development of Otay Mesa, is adjacent to the existing Miguel-Tijuana transmission line, and has the best sewer interconnection. (*Ibid.*)

Staff concurred with Applicant's analysis and noted that no public comments or suggestions were received on alternative sites. (Ex. 64, p. 362.)

7. Alternative Design

Applicant determined that there are no practical alternative transmission line routes, voltages, or points of interconnection other than those proposed for the project. (Ex. 4, / 3.11.5). Calpine's pending purchase of the project after certification led Applicant to revise its site design to accommodate the power train configuration planned by the new project owner. (Ex. 109.) The revised site design does not affect any environmental or public health issues.

Intervenor Cabrillo Power proposed that the OMGP include a dual fuel alternative to burn fuel oil in the event of natural gas curtailment. (Ex. 72, p. 8.) Staff and Applicant believe this option is environmentally inferior to the proposed project because burning fuel oil would not meet BACT requirements for control of PM₁₀ and sulfur emissions. (11/14/2000 RT 59:5-10; 11/21/2000 RT 123; see also, discussion in the **Air Quality** and **Power Plant Reliability** sections of this Decision.).

FINDINGS AND CONCLUSIONS

Based on the weight of the evidence, the Commission makes the following findings and conclusions:

1. The project site is located on an undeveloped parcel in the Otay Mesa region of San Diego County that is zoned for industrial uses.
2. All potential adverse environmental effects related to the project will be mitigated to insignificant levels.
3. The evidentiary record contains a review of alternative technologies, fuels, sites, and the no project alternatives.
4. Renewable technology alternatives such as geothermal, solar, biomass, or wind resources are either unavailable in the Otay region or not capable of meeting project objectives.

5. The use of microturbine distributed generation to meet project objectives would not be efficient, cost effective, or provide adequate mitigation to reduce potential environmental effects.
6. The evidentiary record does not establish that the no project alternative would avoid or substantially lessen potentially significant environmental impacts given the increased demand for electric power in the San Diego region and the likelihood that the industrial zoning for the site would attract other power plant proposals.
7. The evidentiary record contains an adequate analysis of alternative site locations.
8. If all Conditions of Certification contained in this Decision are implemented, construction and operation of the Otay Mesa Generating Project will not create any significant, direct, indirect, or cumulative adverse environmental impacts.

We therefore conclude that the record of evidence contains sufficient analysis of alternatives to comply with the requirements of the Warren-Alquist Act and the California Environmental Quality Act and their implementing regulations. No Conditions of Certification are required for this topic.

IV. COMPLIANCE AND CLOSURE

Public Resources Code section 25532 requires the Commission to establish a post-certification monitoring system. The purpose of this requirement is to assure that certified facilities are constructed and operated in compliance with applicable laws, ordinances, regulations, standards and the specific Conditions of Certification adopted as part of this Decision.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence of record contains a full explanation of the purposes and intent of the Compliance Plan (Plan). The Plan is the administrative mechanism used to ensure that the Otay Mesa Generating Project is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and expectations of the project owner and the Staff Compliance Project Manager in implementing the design, construction, and operation criteria set forth in the Decision. Compliance with the Conditions of Certification contained in this Decision is verified through means such as periodic reports and site visits

The Compliance Plan is composed of two broad elements. The first element is the "General Conditions". These General Conditions basically:

- set forth of the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, delegate agencies, and others;
- set forth the requirements for handling confidential records and maintaining the compliance record;
- establish procedures for settling the disputes and making post-certification changes;

- establish requirements for periodic compliance reports and other administrative procedures necessary to verify compliance status for all Conditions of Certification; and
- establish requirements for closure of the facility. The closure requirements cover the eventualities of planned closure (in which the facility would be closed in an anticipated and orderly manner), temporary closure (short-term sudden or unexpected closure), and unexpected permanent closure.

The second general element is the specific Conditions of Certification. These are found following the summary and discussion of each individual topic area in this Decision. The specific Conditions contain the measures required to mitigate potentially adverse project impacts to insignificant levels. Each Condition also includes a "verification" provision that describes the method of assuring that the Condition has been satisfied.

The contents of the Compliance Plan are intended to be read in conjunction with any additional requirements contained in the individual Conditions of Certification.

FINDINGS AND CONCLUSIONS

The evidence of record establishes:

1. The Compliance Plan and the specific Conditions of Certification contained in this Decision will assure that the Otay Mesa Generating Project is designed, constructed, operated, and closed in conformity with applicable law.
2. Requirements contained in the Compliance Plan and in the specific Conditions of Certification are intended to be read in conjunction with one another.

We therefore conclude that the compliance and monitoring provisions incorporated as a part of this Decision satisfy the requirements of Public Resources Code section 25532. We also adopt the following Compliance Plan as part of this Decision.

COMPLIANCE PLAN

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

A CPM will oversee the compliance monitoring and shall be responsible for:

- ensuring that the design, construction, operation, and closure of the project facilities is in compliance with the terms and conditions of the Commission Decision;
- resolving complaints;
- processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
- documenting and tracking compliance filings; and,
- ensuring that the compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints and amendments.

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, it should be understood that the approval would involve all appropriate staff and management.

PUBLIC ACCESS

The public may contact the Commission about power plant construction or operation-related questions, complaints, or concerns at the following toll free telephone number: 1-800-858-0784.

PRE-CONSTRUCTION AND PRE-OPERATION COMPLIANCE MEETING

The CPM may schedule pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. Technical staff from both the Energy Commission and the project owner will meet to review the status of all pre-construction or pre-operation Energy Commission s conditions of certification. They will determine whether all requirements have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings shall ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight or inadvertence and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process may need to be publicly noticed unless they are confined to administrative issues and process.

ENERGY COMMISSION RECORD

The Energy Commission shall maintain as a public record, in either the Compliance file or Docket file, for the life of the project (or other period as required):

- all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
- all Monthly and Annual Compliance Reports filed by the project owner;
- all complaints of noncompliance filed with the Energy Commission; and,
- all petitions for project or condition changes and the resulting staff or Energy Commission action taken.

PROJECT OWNER RESPONSIBILITIES

It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate.

ACCESS

The CPM, responsible Energy Commission staff, and delegate agencies or consultants, shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

COMPLIANCE RECORD

The project owner shall maintain project files on-site or at an alternative site approved by the CPM, for the life of the project. The files shall contain copies of all as-built drawings, all documents submitted as verification for conditions, and all other project-related documents for the life of the project, unless a lesser period is specified by the conditions of certification.

Energy Commission staff and delegate agencies shall be, upon request to the project owner, given unrestricted access to the files.

COMPLIANCE VERIFICATIONS

Each condition of certification is followed by a means of verification. The verification describes the Energy Commission's procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified, as necessary by the CPM, and in most cases without full Energy Commission approval.

Verification of compliance with the conditions of certification can be accomplished by:

- reporting on the work done and providing the pertinent documentation in Monthly and/or Annual Compliance Reports filed by the project owner or authorized agent as required by the specific conditions of certification;
- appropriate letters from delegate agencies verifying compliance;
- Energy Commission staff audit of project records; and/or
- Energy Commission staff inspection of mitigation and/or other evidence of mitigation.

Verification lead times (e.g., 30, 60, or 90 days) associated with start of construction may require the project owner to file submittals during the certification process, particularly if construction is planned to commence shortly after certification.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. **The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal.** The project owner shall also identify those submittals **not** required by a condition of certification with a statement such as: This submittal is for information only and is not required by a specific condition of certification. When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal.

The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or an agent of the project owner.

All submittals shall be addressed as follows:

**Compliance Project Manager
Otay Mesa Generating Project (99-AFC-5C)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814**

If the project owner desires Energy Commission staff action by a specific date, it shall so state in its submittal and include a detailed explanation of the effects on the project if this date is not met.

COMPLIANCE REPORTING

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Commission Decision. During construction, the project owner or authorized agent will submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the conditions of certification require that compliance submittals be submitted to the CPM in the Monthly Compliance Reports.

COMPLIANCE MATRIX

The project owner shall submit a compliance matrix to the CPM along with each Monthly and Annual Compliance Report. The compliance matrix is intended to provide the CPM with the current status of all compliance conditions in a spreadsheet format. The compliance matrix must identify:

- the technical area,
- the condition number,
- a brief description of the verification action or submittal required by the condition,
- the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.),
- the expected or actual submittal date,
- the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable, and
- the compliance status for each condition (e.g., not started , in progress or completed date).

Completed or satisfied conditions do not need to be included in the compliance matrix after they have been identified as completed/satisfied in at least one Monthly or Annual Compliance Report.

PRE-CONSTRUCTION MATRIX

Prior to commencing construction a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner's **first** compliance submittal. It will be in the same format as the compliance matrix referenced above.

START OF CONSTRUCTION

Construction shall not commence until this matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing the start of construction. Project owners frequently anticipate starting project construction as soon as the project is certified. In some cases it may be necessary for the project owner to file submittals prior to certification if the required lead-time extends beyond the day anticipated for the start of construction. It is important that the project owner understand that pre-construction activities are performed at their own risk. Failure to allow appropriate lead-time may cause delays in start of construction.

MONTHLY COMPLIANCE REPORT

The first Monthly Compliance Report is due the month following the Energy Commission business meeting date that the project was approved, unless the otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the Key Events List. The Key Events List is found at the end of this section.

During pre-construction and construction of the project, the project owner or authorized agent shall submit Monthly Compliance Reports within 10 working days after the end of each reporting month. Monthly Compliance Reports shall be clearly identified for the month being reported. The reports shall contain at a minimum:

- a summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
- documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Monthly Compliance Report;
- an initial, and thereafter updated, compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
- a list of conditions which have been satisfied during the reporting period, and a description or reference to the actions which satisfied the condition;

- a list of any submittal deadlines that were missed accompanied by an explanation and an estimate of when the information will be provided;
- a cumulative listing of any approved changes to conditions of certification;
- a listing of any filings with, or permits issued by, other governmental agencies during the month;
- a projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance conditions of certification;
- a listing of the month's additions to the on-site compliance file; and
- any requests to dispose of items that are required to be maintained in the project owner's compliance file.
- a listing of complaints, notices of violation, official warnings, and citations received during the month; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

ANNUAL COMPLIANCE REPORT

After the air district has issued a Permit to Operate, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

- an updated compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
- a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
- documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Annual Compliance Report;
- a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
- an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
- a listing of filings made to, or permits issued by, other governmental agencies during the year;

- a projection of project compliance activities scheduled during the next year;
- a listing of the year's additions to the on-site compliance file, and
- an evaluation of the on-site contingency plan for unexpected facility closure, including any suggestions necessary for bringing the plan up to date [see General Conditions for Facility Closure addressed later in this section].
- a listing of complaints, notices of violation, official warnings, and citations received during the year; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

CONFIDENTIAL INFORMATION

Any information, which the project owner deems confidential shall be submitted to the Energy Commission's Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

DEPARTMENT OF FISH AND GAME FILING FEE

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of eight hundred and fifty dollars (\$850). The payment instrument shall be provided to the Commission's Project Manager at the time of project certification and shall be made payable to the California Department of Fish and Game. The Commission's Project Manager will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision pursuant to Public Resources Code Section 21080.5.

REPORTING OF COMPLAINTS, NOTICES, AND CITATIONS

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering, with date and time stamp recording. The telephone number shall be posted at the project site and easily visible to passersby during construction and operation.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the **NOISE** conditions of certification. All other complaints shall be recorded on the Complaint Form, which follows.

COMPLAINT RESOLUTION REPORT - OTAY MESA GENERATING PROJECT
CEC Docket Number 99-AFC-5(C)

COMPLAINT LOG NUMBER _____

Complainant's name and address:

Phone number:

Date and time complaint received:

Indicate if by telephone or in writing (attach copy if written):

Date of first occurrence:

Description of complaint (including dates, frequency, and duration):

Findings of investigation by plant personnel:

Indicate if complaint relates to violation of a CEC requirement:

Date complainant contacted to discuss findings:

Description of corrective measures taken or other complaint resolution:

Indicate if complainant agrees with proposed resolution:

If not, explain:

Other relevant information:

If corrective action necessary, date completed:

Date first letter sent to complainant: _____ (copy attached)

Date final letter sent to complainant: _____ (copy attached)

This information is certified to be correct.

Plant Manager's Signature: _____ Date: _____

(Attach additional pages and supporting documentation, as required.)

FACILITY CLOSURE

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. Although the project setting for this project does not appear, at this time, to present any special or unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made which provide the flexibility to deal with the specific situation and project setting which will exist at the time of closure. LORS pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

There are at least three circumstances in which a facility closure can take place, planned closure, unexpected temporary closure and unexpected permanent closure.

PLANNED CLOSURE

This planned closure occurs at the end of a project's life, when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

UNEXPECTED TEMPORARY CLOSURE

This unplanned closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster, or an emergency.

UNEXPECTED PERMANENT CLOSURE

This unplanned closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unexpected closure where the owner remains accountable for implementing the on-site contingency plan. It can also include unexpected closure where the project owner is unable to implement the contingency plan, and the project is essentially abandoned.

GENERAL CONDITIONS FOR FACILITY CLOSURE

PLANNED CLOSURE

In order that a planned facility closure does not create adverse impacts, a closure process, that will provide for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility

closure plan to the Energy Commission for review and approval at least twelve months prior to commencement of closure activities (or other period of time agreed to by the CPM). The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.

The plan shall:

- Identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site.
- Identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;
- Identify all facilities or equipment that will a) be immediately removed from the site after closure (e.g. hazardous materials); b) temporarily remain on the site after closure (e.g., until the item is sold or scrapped); and c) permanently remain on site after closure. The plan must explain both why the item cannot be removed and why it does not present a risk of harm to the environment and the public health and safety to remain *insitus* for an indefinite period.
- Address conformance of the plan with all-applicable laws, ordinances, regulations, standards, local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

Also, in the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Commission may hold public hearings as part of its approval procedure.

In addition, prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Commission CPM for the purpose of discussing the specific contents of the plan.

As necessary, prior to, or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety or the environment, but shall not commence any other closure activities, until Commission approval of the facility closure plan is obtained.

UNEXPECTED TEMPORARY CLOSURE

In order to ensure that public health and safety and the environment are protected in the event of an unexpected temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate public health and safety, and environmental impacts, are taken in a timely manner.

The project owner shall submit an on-site contingency plan for CPM review and approval. The plan shall be submitted no less than 60 days (or other time agreed to by the CPM) prior to commencement of commercial operation. The approved plan must be in place prior to commercial operation of the facility and shall be kept at the site at all times.

The project owner, in consultation with the CPM, will update the on-site contingency plan as necessary. The CPM may require revisions to the on-site contingency plan over the life of the project. In the Annual Compliance Reports submitted to the Energy Commission, the project owner will review the on-site contingency plan, and recommend changes to bring the plan up to date. Any changes to the plan must be approved by the CPM.

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days (unless other arrangements are agreed to by the CPM), the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment and the safe shutdown of all equipment.

In addition, consistent with requirements under unexpected permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.

In the event of an unexpected temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of circumstances and expected duration of the closure.

If it is determined that a temporary closure is likely to be permanent, or for a duration of more than twelve months, a closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the determination. The CPM and the project owner may agree to a period of time other than 90 days.

UNEXPECTED PERMANENT CLOSURE

The on-site contingency plan required for unexpected temporary closure shall also cover unexpected permanent facility closure. All of the requirements specified for unexpected temporary closure shall also apply to unexpected permanent closure.

In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the unlikely event of abandonment.

In the event of an unexpected permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the permanent closure (or other period of time agreed to by the CPM).

DELEGATE AGENCIES

To the extent permitted by law, the Energy Commission may delegate authority for compliance verification and enforcement to various state and local agencies that have expertise in subject areas where specific requirements have been established as a condition of certification. If a delegate agency does not participate in this program, the Energy Commission staff will establish an alternative method of verification and enforcement. Energy Commission staff reserves the right to independently verify compliance.

In performing construction and operation monitoring of the project, the Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). The Commission staff retains this authority when delegating to a local CBO. Delegation of authority for compliance verification includes the authority for enforcing codes, the responsibility for code interpretation where required, and the authority to use discretion as necessary, in implementing the various codes and standards.

Whenever an agency's responsibility for a particular area is transferred by law to another entity, all references to the original agency shall be interpreted to apply to the successor entity.

ENFORCEMENT

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900.

The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Commission Decision.

The specific action and amount of any fines the Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, inadvertence, unforeseeable events, and other factors the Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable laws, ordinances, regulations, and standards, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 et. seq., but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by current law or regulations.

INFORMAL DISPUTE RESOLUTION PROCEDURE

The following procedure is designed to informally resolve disputes concerning interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1230 et. seq., but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be referred to the full Energy Commission for consideration

via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

REQUEST FOR INFORMAL INVESTIGATION

Any individual, group, or agency may request the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within 7 working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within 48 hours, followed by a written report filed within 7 days.

REQUEST FOR INFORMAL MEETING

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within 14 days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

- immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
- secure the attendance of appropriate Energy Commission staff and staff of any other agency with expertise in the subject area of concern as necessary;
- conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and,
- after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements

provided under Title 20, California Code of Regulations, section 1230 et. seq.

FORMAL DISPUTE RESOLUTION PROCEDURE-COMPLAINTS AND INVESTIGATIONS

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et. seq.

Within 30 days after receipt of a written complaint or request for investigation, the Chairperson or, if one is assigned, the Committee may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Title 20, California Code of Regulations, sections 1232 - 1236).

POST CERTIFICATION CHANGES TO THE COMMISSION DECISION: AMENDMENTS, INSIGNIFICANT PROJECT CHANGES, AND VERIFICATION CHANGES

The project owner must petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to 1) delete or change a condition of certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

A petition is required for **amendments** and for **insignificant project changes**. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of change process applies are explained below.

AMENDMENT

A proposed change will be processed as an amendment if it involves a change to the requirement or protocol (and in some cases the verification) portion of a condition of certification, an ownership or operator change, or a potential significant environmental impact.

INSIGNIFICANT PROJECT CHANGE

The proposed change will be processed as an insignificant project change if it does not require changing the language in a condition of certification, have a potential for significant environmental impact, and cause the project to violate laws, ordinances, regulations or standards.

VERIFICATION CHANGE

Pursuant to Title 20, California Code of Regulations, section 1770 (d), the staff may modify the verification provisions as necessary to enforce the conditions of certification without requesting an amendment to the decision.

This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment.

KEY EVENT LIST

PROJECT _____ DATE ENTERED _____

DOCKET # _____ PROJECT MANAGER _____

<i>EVENT DESCRIPTION</i>	<i>DATE ASSIGNED</i>
Date of Certification	
Start of Construction	
Completion of Construction	
Start of Operation (1st Turbine Roll)	
Start of Rainy Season	
End of Rainy Season	
Start T/L Construction	
Complete T/L Construction	
Start Fuel Supply Line Construction	
Complete Fuel Supply Line Construction	
Start Rough Grading	
Complete Rough Grading	
Start of Water Supply Line Construction	
Completion of Water Supply Line Construction	
Start Implementation of Erosion Control Measures	
Complete Implementation of Erosion Control Measures	

V. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the Otay Mesa Generating Project consists of separate analyses that examine facility design, as well as the efficiency and reliability of the proposed power plant. These analyses include the onsite power generating equipment and the project-related linear facilities (transmission line, natural gas supply pipeline, and water supply pipeline).

A. FACILITY DESIGN

The review of facility design covers several technical disciplines, including the civil, electrical, mechanical, and structural engineering elements related to project design, construction, and operation.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Application for Certification (AFC) describes the preliminary facility design for the project.⁸ The Commission's analysis is limited, therefore, to assessing whether the power plant and linear facilities are described with sufficient detail to assure that the project can be designed and constructed in accordance with applicable engineering laws, ordinances, regulations, and standards (LORS). The analysis also considers whether special design features will be necessary to deal with unique site conditions that could impact public health and safety, the environment, or the operational reliability of the project. (Ex. 64, p. 287.)

Staff proposed several Conditions of Certification, adopted by the Commission,⁹ which establish a design review and construction inspection process to verify compliance with applicable design standards and special design requirements.

⁸ Ex. 1, §§ 1.5.2, 3.4, Appendices A—G and I; Exs. 4, 17, 52, and 109.

⁹ Conditions **GEN-1—GEN-8**

(Ex. 64, pp. 295-296.) The project will be designed and constructed in conformance with the latest edition of the California Building Code (currently the 1998 CBC) and other applicable codes and standards in effect at the time construction actually begins. (*Id.* at p. 289.) Condition **GEN-1** incorporates this requirement.

Staff reviewed the preliminary project design with respect to site preparation and development; major project structures, systems and equipment; mechanical systems; electrical systems; linear facilities such as the gas pipeline, water pipeline, and transmission route; and geologic hazards. (Ex. 64, p. 289; Ex. 1, §§ 7.3-7.4, Appendices A-G.)

The project will employ site preparation and development criteria consistent with accepted industry standards. This includes design practices and construction methods for grading, flood protection, erosion control, site drainage, and site access. (Ex. 8; Ex. 64, p. 289.) Condition **CIVIL-1** ensures that these activities will be conducted in compliance with applicable LORS.

Major structures, systems, and equipment include those structures and associated components necessary for power production or facilities used for storage of hazardous or toxic materials. (Ex. 1, Appendix F.) Condition **GEN-2** includes a list of the major structures and equipment for the project.

The power plant site and ancillary facility corridors are located in Seismic Zone 4, the highest level of potential ground shaking in California. (Ex. 1, § 5.3.1.1.6 et seq. and Appendix G.) The 1998 CBC requires specific lateral force procedures for different types of structures to determine their seismic design. (Ex. 64, p. 290; Ex. 1, Appendix B.) To ensure that project structures are analyzed using the appropriate lateral force procedure, Condition **STRUC-1** requires the project owner to submit its proposed lateral force procedures to the

Chief Building Official (CBO)¹⁰ for review and approval prior to the start of construction. (*Id.* at p. 292.) The natural gas pipelines will be designed, constructed, and operated in accordance with federal standards and CPUC General Order (GO) 112-E. (*Id.* at p. 291.)

The major mechanical features of the 510 MW power plant include two natural gas fired, F-class combustion turbine generators (CTG), two heat recovery steam generators (HRSGs), each with 100-foot tall exhaust stacks, and either one or two steam turbine generators (STG).¹¹ (Ex. 1, // 1.5.2, 3.4 .) The power islands will also contain the balance-of-plant (BOP) mechanical and electrical equipment. Staff and Applicant agree that the CTGs and HRSGs can be supported on reinforced concrete mat foundations at grade and the STGs can be supported on reinforced concrete pedestals mounted on a base mat at grade. Individual reinforced pads will support the BOP equipment. (Ex. 64, p. 292.)

Other mechanical features include water and wastewater treatment facilities; pressure vessels, piping systems and pumps, aqueous ammonia storage, handling and piping system, air compressors; fire protection systems; and heating, ventilation, air conditioning (HVAC), potable water, plumbing and sanitary sewage systems. (Ex. 64, p. 293.)

The mechanical systems for the project are designed to the specifications of applicable LORS. Conditions **MECH-1** through **MECH-4** ensure that the project complies with these standards.

¹⁰ The CBO is the Commission's duly appointed representative, who may be the County's Chief Building Official, or other qualified representative.

¹¹ The AFC described two power islands, which would each include a CTG, HRSG, and STG based on the ABB KA-24 combustion turbine. Applicant's alternative site layout proposal would employ either the General Electric 7A turbine or the Siemens-Westinghouse 501F turbine in a two-on-one configuration using only one STG. (Ex. 109.)

Major electrical features other than the transmission system include generators, power control wiring, protective relaying, grounding system, cathodic protection system and site lighting. (Ex. 1, Appendix E.) Conditions **ELEC-1** and **ELEC-2** ensure that design and construction of these electrical features will comply with applicable LORS.

Ancillary facilities include the new 230 kV switchyard at the project site, the new parallel 0.1-mile 230 kV transmission outlet lines to interconnect with the Miguel-Tijuana line; the new 2-mile wastewater discharge supply pipeline; two new 20 inch diameter fuel gas pipelines; and the 0.2 mile potable water supply pipeline. The project owner will comply with all applicable LORS in the design and construction of these facilities. (Ex. 1, /3.7 et seq.; Ex. 17.) The transmission facilities will be designed, constructed, and operated according to Conditions **TSE-1** through **TSE-3** in the **Transmission System Engineering** section of this Decision.

The evidence also addresses potential project closure. (Ex. 64, p. 297.) Condition **GEN-9**, in conjunction with the general closure provisions in the Compliance Plan (*ante*), specifies closure procedures to ensure compliance with applicable LORS.

Finally, the Conditions of Certification specify the roles, qualifications, and responsibilities of engineering personnel who will oversee project design and construction. These Conditions require the approval of the CBO after appropriate inspections by qualified engineers. No element of construction may proceed without approval of the CBO. (Ex. 64, p. 296.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Otay Mesa Generating Project is currently in the preliminary design stage.
2. The evidence of record contains sufficient information to establish that the proposed facility can be designed and constructed in conformity with the applicable laws, ordinances, regulations, and standards set forth in the appropriate portions of Appendix A of this Decision.
3. The Conditions of Certification set forth below are necessary to ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety.
4. The Conditions of Certification below and the provisions of the Compliance Plan contained in this Decision set forth requirements to be followed in the event of facility closure.

We therefore conclude that, with the implementation of the Conditions of Certification listed below, the Otay Mesa Generating Project can be designed and constructed in conformance with applicable laws.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Code (CBC)¹² and all other applicable LORS in effect at the time initial design plans are submitted to the CBO for review and approval. The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1**, **TSE-2**, and **TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol: In the event that the OMGP is submitted to the CBO when a successor to the 1998 CBC is in effect, the 1998 CBC provisions identified herein shall be replaced with the applicable successor provisions. *Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern.* Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

¹² The Sections, Chapters, Appendices and Tables, unless otherwise stated, refer to the Sections, Chapters, Appendices and Tables of the 1998 California Building Code (CBC).

Verification: Within 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) after receipt of the Certificate of Occupancy, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met for facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 — Certificate of Occupancy.]

GEN-2 The project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major structures and equipment in **Table 1: Major Equipment List** below). To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

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Table 1: Major Equipment List

QTY	DESCRIPTION	SIZE/CAPACITY ⁽¹⁾	REMARKS
2	CTG — Combustion Turbine	170 MW	Dry low No _x combustion control and starter package
2	STG — Steam Turbine	90 MW	Condensing reheat type
2	Generator	300 MVA	TEWAC or hydrogen cooling system
2	CTG inlet filter	725,000 CFM	
2	Inlet air cooling		Evaporative type
2	Fuel gas filter — separator	80,000 lb/h	623 psig minimum inlet pressure
2	HRSG — Heat recovery steam generator	480,000lb/h	HP and LP
2	HRSG — Stack	18'-6" Ø x 131' high	
2	CO catalyst		Sized to achieve BACT/LAER
2	SCONO _x ™ skid		Sized to achieve BACT/LAER
4	HP HRSG feedwater pump	1,200 gpm	
1	Fire/service water storage tank	450,000 gal	
2	Demineralized water pump	500 gpm	
1	Demineralized water treatment package	100 gpm	
1	Demineralized water storage tank	90,000 gal	
4	Condensate pump	1,200 gpm	
2	Air cooled condenser	600 MMBtu/h	
1	Fire water pump skid	2,500 gpm	
2 ⁽²⁾	Step-up transformer	18/230 kV	To electrical grid

⁽¹⁾ All sizes and capacities are approximate and may change during final design.

⁽²⁾ Three step-up transformers are required for the GE 7FA-combined cycle unit.

Table 2: Major Structures and Equipment

QTY	Description	Dimensions (ft) ⁽¹⁾		
		Length	Width	Height
2	Combustion gas turbine with starter package (CT)	50	45	20
2	CT air inlet filter with air cooling	100	20	35
2	Generator with enclosure	40	20	25
2	Fuel gas filter — separator	10	10	40
2	Heat recovery steam generator (HRSG)	70	45	65
2	HRSG stack	--	18 -6 Ø	131
2	SCONO _x ™ skid	20	15	10
2	Generator breaker	15	20	25
2	Steam turbine pedestal w/turbine	45	50	30
2	Air cooled condenser	165	100	76
2	Auxiliary transformer	20	20	25
2	Step-up transformer	45	30	25
1	Demineralized water storage tank	--	50 Ø	48
1	Fire/service water storage tank	--	70 Ø	48
1	Water treatment building	100	75	20
1	Administration building	205	60	27
1	Fire pump building	15	30	12
1	Switchyard, busses and towers	360	360	35
1	Electrical control building	40	30	27
1	Switchyard control building	20	20	14
1	Warehouse/mechanical shop ⁽²⁾	100	60	27
1	Boiler feed pump building	25	20	12

⁽¹⁾ All dimensions are approximate and may change during project final design.

⁽²⁾ Rooms are located within the administration building.

Verification: At least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The project owner shall provide schedule updates in the Monthly Compliance Report.

GEN-3 The project owner shall make payments to the CBO for design review, plan check and construction inspection, equivalent to the fees listed in the 1998 CBC, Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees. If the CBO has adjusted the CBC fees for design review, plan check and construction inspection, the project owner shall pay the adjusted fees.

Verification: The project owner shall make the required payments to the CBO at the time of submittal of the plans, design calculations, specifications, or soil reports. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next Monthly Compliance Report indicating that the applicable fee has been paid.

GEN-4 Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a resident engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, /4-209, Designation of Responsibilities).] All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1, TSE-2** and **TSE-3** in the **Transmission System Engineering** Section of this document.

The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project respectively. A project may be divided into parts, provided each part is clearly defined as a distinct unit. Separate assignment of general responsible charge may be made for each designated part.

Protocol: The RE shall:

- Monitor construction progress to ensure compliance with LORS;
- Ensure that construction of all the facilities conforms in every material respect to the applicable LORS, these Conditions of Certification, approved plans, and specifications;
- Prepare documents to initiate changes in the approved drawings and specifications when directed by the project owner or as required by conditions on the project;

- Be responsible for providing the project inspectors and testing agency(ies) with complete and up-to-date set(s) of stamped drawings, plans, specifications and any other required documents;
- Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and
- Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests as not conforming to the approved plans and specifications.

The RE shall have the authority to halt construction and to require changes or remedial work, if the work does not conform to applicable requirements.

If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO s approval of the new engineer.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO s approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has 5 days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO s approval of the new engineer within five days of the approval.

GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; D) a mechanical engineer; and E) an electrical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.] All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1**, **TSE-2**, and **TSE-3** in the **Transmission System Engineering** Section of this document.

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. [1998 CBC, Section 104.2, Powers and Duties of Building Official.]

If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

Protocol A: The civil engineer shall:

- Design, or be responsible for design, stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and
- Provide consultation to the RE during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures.

Protocol B: The geotechnical engineer or civil engineer, experienced and knowledgeable in the practice of soils engineering, shall:

- Review all the engineering geology reports, and prepare final soils grading report;
- Prepare the soils engineering reports required by the 1998 CBC, Appendix Chapter 33, Section 3309.5 — Soils Engineering Report, and Section 3309.6 — Engineering Geology Report;
- Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 1998 CBC, Appendix Chapter 33, section 3317, Grading Inspections;

- Recommend field changes to the civil engineer and RE;
- Review the geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load; and
- Prepare reports on foundation investigation to comply with the 1998 CBC, Chapter 18 section 1804, Foundation Investigations.

This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations. [1998 CBC, section 104.2.4, Stop orders.]

Protocol C: The design engineer shall:

- Be directly responsible for the design of the proposed structures and equipment supports;
- Provide consultation to the RE during design and construction of the project;
- Monitor construction progress to ensure compliance with LORS;
- Evaluate and recommend necessary changes in design; and
- Prepare and sign all major building plans, specifications, and calculations.

Protocol D: The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform with all of the mechanical engineering design requirements set forth in the Energy Commission's Decision.

Protocol E: The electrical engineer shall:

- Be responsible for the electrical design of the project; and
- Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-6 Prior to the start of an activity requiring special inspection, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section, 1701.5 Type of Work (requiring special inspection), and Section 106.3.5, Inspection and observation program. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1**, **TSE-2**, and **TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol: The special inspector shall:

- Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;
- Observe the work assigned for conformance with the approved design drawings and specifications;
- Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and
- Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable provisions of the applicable edition of the CBC.
- A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels).

Verification: At least 15 days prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also

submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

GEN-7 The project owner shall keep the CBO informed regarding the status of engineering and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM. The project owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within 5 days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

GEN-8 The project owner shall obtain the CBO's final approval of all completed work. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. When the work and the as-built and as graded plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up as-built drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the as-built drawings [1998 CBC, Section 108, Inspections.]

Verification: Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans.

GEN-9 The project owner shall file a closure/decommissioning plan with the CBO and the CPM for review and approval at least 12 months (or other mutually agreed to time) prior to commencing the closure activities. If the project is abandoned before construction is completed, the project owner shall return the site to its original condition.

Protocol: The closure plan shall include a discussion of the following:

- The proposed closure/decommissioning activities for the project and all appurtenant facilities constructed as part of the project;
- All applicable LORS, all local/regional plans, and a discussion of the conformance of the proposed decommissioning activities to the applicable LORS and local/regional plans;
- Activities necessary to restore the site if the OMGP decommissioning plan requires removal of all equipment and appurtenant facilities; and
- Closure/decommissioning alternatives, other than complete restoration of the site.

Verification: At least 12 months prior to closure or decommissioning activities, the project owner shall file a copy of the closure/decommissioning plan with the CBO and the CPM for review and approval. Prior to the submittal of the closure plan, a meeting shall be held between the project owner and the CPM for discussing the specific contents of the plan.

CIVIL-1 Prior to the start of site grading, the project owner shall submit to the CBO for review and approval the following:

- Design of the proposed drainage structures and the grading plan;
- An erosion and sedimentation control plan;
- Related calculations and specifications, signed and stamped by the responsible civil engineer; and
- Soils report as required by the 1998 CBC, Appendix Chapter 33, Section 3309.5, Soils Engineering Report and Section 3309.6, Engineering Geology Report.

Verification: At least 15 days before the start of site grading, the project owner shall submit the documents described above to the CBO for review and approval and a copy of the submittal letter to the CPM. In the next Monthly Compliance Report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible geotechnical engineer or civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall

submit modified plans, specifications and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area. [1998 CBC, Section 104.2.4, Stop orders.]

Verification: The project owner shall notify the CPM, within five days, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within five days of the CBO's approval, the project owner shall provide to the CPM a copy of the CBO's approval to resume earthwork and construction in the affected areas.

CIVIL-3 The project owner shall perform inspections in accordance with the 1998 CBC, Chapter 1, Section 108, Inspections; Chapter 17, Section 1701.6, Continuous and Periodic Special Inspection; and Appendix Chapter 33, Section 3317, Grading Inspection. All plant site-grading operations shall be subject to inspection by the CBO and the CPM.

If, in the course of inspection, it is discovered that the work is not being done in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM. The project owner shall prepare a written report detailing all discrepancies and non-compliance items, and the proposed corrective action, and send copies to the CBO and the CPM.

Verification: Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

CIVIL-4 After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final as-graded grading plans, and final as-built plans for the erosion and sedimentation control facilities [1998 CBC, Section 109, Certificate of Occupancy.]

Verification: Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

STRUC-1 Prior to the start of any increment of construction, the project owner shall submit to the CBO for review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for:

- Major project structures;
- Major foundations, equipment supports and anchorage;
- Large field fabricated tanks; and
- Turbine/generator pedestal.
- In addition, the project owner shall, prior to the start of any increment of construction, get approval from the CBO of the lateral force procedures proposed for project structures to comply with the lateral force provisions of the CBC.

Protocol: The project owner shall:

- Obtain approval from the CBO of lateral force procedures proposed for project structures;
- Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (i.e., highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [1998 CBC, Section 108.4, Approval Required];
- Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures at least 90 days (or a lesser number of days mutually agreed to by the project owner and the CBO), prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [1998 CBC, Section 106.4.2, Retention of plans and Section 106.3.2, Submittal documents.]; and
- Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations and specifications shall be signed and stamped by the responsible

design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record.]

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of construction, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

If the CBO discovers non-conformance with the stated requirements, the project owner shall resubmit the corrected plans to the CBO within 20 days of receipt of the nonconforming submittal with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable LORS.

STRUC-2 The project owner shall submit to the CBO the required number of sets of the following:

- Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);
- Concrete pour sign-off sheets;
- Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
- Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
- Reports covering other structure activities requiring special inspections shall be in accordance with the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

Verification: If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies to the CBO, with a copy of the transmittal letter to the CPM.

The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 1998 CBC, Chapter 1, Section 106.3.2, Submittal documents, and Section 106.3.3, Information on plans and specifications, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give the CBO prior notice of the intended filing.

Verification: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the Monthly Compliance Report, when the CBO has approved the revised plans.

STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 1998 CBC shall, at a minimum, be designed to comply with Occupancy Category 2 of the 1998 CBC. Chapter 16, Table 16—K of the 1998 CBC requires use of the following seismic design criteria: $I^o = 1.25$, $I_p = 1.5$ and $I_w = 1.15$.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of installation of the tanks or vessels containing the above specified quantities of highly toxic or explosive substances that would be hazardous to the safety of the general public if released, the project owner shall submit to the CBO for review and approval, final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-1 Prior to the start of any increment of piping construction, the project owner shall submit, for CBO review and approval, the proposed final design drawings, specifications and calculations for each plant piping system (exclude domestic water, refrigeration systems, and small bore piping, i.e., piping and tubing with a diameter less than two and one-half inches). The submittal shall also include the applicable QA/QC procedures. The project owner shall design and install all piping, other than domestic water, refrigeration, and small bore piping to the applicable edition of the CBC. Upon completion of construction of any piping system, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 106.3.2, Submittal documents, Section 108.3, Inspection Requests.]

Protocol: The responsible mechanical engineer shall submit a signed and stamped statement to the CBO when:

- The proposed final design plans, specifications and calculations conform with all of the piping requirements set forth in the Energy Commission's Decision; and
- All of the other piping systems, except domestic water, refrigeration systems and small bore piping have been designed, fabricated and installed in accordance with all applicable ordinances, regulations, laws and industry standards, including, as applicable:
 - ◆ American National Standards Institute (ANSI) B31.1 (Power Piping Code);
 - ◆ ANSI B31.2 (Fuel Gas Piping Code);
 - ◆ ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
 - ◆ ANSI B31.8 (Gas Transmission and Distribution Piping Code); and
 - ◆ Specific City/County code.
- The CBO may require the project owner to employ special inspectors to report directly to the CBO to monitor shop fabrication or equipment installation [1998 CBC, Section 104.2.2, Deputies.]

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of piping construction, the project owner shall submit to the CBO for approval, with a copy of the transmittal letter to the CPM, the above listed documents for that increment of construction of piping systems, including a copy of the signed and stamped engineer's certification of conformance with the Energy Commission's Decision. The project owner shall transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-2 For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by the applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation [1998°CBC, Section 108.3 — Inspection Requests.]

Protocol: The project owner shall:

- Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and
- Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for review and approval, final design plans, specifications and calculations, including a copy of the signed and stamped engineer s certification, with a copy of the transmittal letter to the CPM.

The project owner shall send copies of the CBO plan check approvals to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO s and/or Cal-OSHA inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-3 Prior to the start of construction of any heating, ventilating, air conditioning (HVAC) or refrigeration system, the project owner shall submit to the CBO for review and approval the design plans, specifications, calculations and quality control procedures for that system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer s data sheets.

Protocol: The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the applicable edition of the CBC. Upon completion of any increment of construction, the project owner shall request the CBO s inspection and approval of said construction. The final plans, specifications and calculations shall include approved criteria, assumptions and methods used to develop the design. In

addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS [1998 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record.]

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable edition of the CBC, with a copy of the transmittal letter to the CPM.

The project owner shall send copies of CBO comments and approvals to the CPM in the next Monthly Compliance Report. The project owner shall transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-4 Prior to the start of each increment of plumbing construction, the project owner shall submit for CBO's approval the final design plans, specifications, calculations, and QA/QC procedures for all plumbing systems, potable water systems, drainage systems (including sanitary drain and waste), toilet rooms, building energy conservation systems, and temperature control and ventilation systems, including water and sewer connection permits issued by the local agency. Upon completion of any increment of construction, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 108.3, Inspection Requests, Section 108.4, Approval Required.]

Protocol: The project owner shall design, fabricate and install:

- Plumbing, potable water, all drainage systems, and toilet rooms in accordance with Title 24, California Code of Regulations, Division 5, Part 5 and the California Plumbing Code (or other relevant section(s) of the currently adopted California Plumbing Code and Title 24, California Code of Regulations); and
- Building energy conservation systems and temperature control and ventilation systems in accordance with Title 24, California Code of Regulations, Division 5, Chapter 2-53, Part 2.
- The final plans, specifications and calculations shall clearly reflect the inclusion of approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall stamp and sign all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans,

specifications and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any of the above systems, the project owner shall submit to the CBO the final design plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable edition of the CBC, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

The project owner shall transmit a copy of the CBO's inspection approvals to the CPM in the next Monthly Compliance Report following completion of that increment of construction.

ELEC-1 For the 480 volts and higher systems, the project owner shall not begin any increment of electrical construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [1998 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests.] All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification TSE-1, TSE-2 and TSE-3 in the **Transmission System Engineering** Section of this document.

Protocol: The following activities shall be reported in the Monthly Compliance Report:

- receipt or delay of major electrical equipment;
- testing or energization of major electrical equipment; and
- the number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for electrical equipment and systems 480 volts and greater, including a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

ELEC-2 The project owner shall submit to the CBO the required number of copies of items A and B for review and approval and one copy of item C [CBC 1998, Section 106.3.2, Submittal documents.] All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of

Certification **TSE-1**, **TSE-2**, and **TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol A: Final plant design plans to include:

- one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems;
- system grounding drawings;
- general arrangement or conduit drawings; and
- other plans as required by the CBO.

Protocol B: Final plant calculations to establish:

- short-circuit ratings of plant equipment;
- ampacity of feeder cables;
- voltage drop in feeder cables;
- system grounding requirements;
- coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;
- system grounding requirements;
- lighting energy calculations; and
- other reasonable calculations as customarily required by the CBO.

Protocol C: The project owner shall submit a signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of electrical equipment installation, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations, for electrical equipment and systems 480 volts and greater enumerated above, including a copy of the signed and stamped statement from the responsible electrical engineer certifying compliance with the applicable LORS. The project owner shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

B. POWER PLANT EFFICIENCY

The Commission must consider whether the project's consumption of energy (non-renewable fuel) will result in adverse environmental impacts on energy resources. [Cal. Code of Regs., tit. 14, / 15126.4(a)(1), Appendix F.] This analysis reviews the efficiency of project design and identifies measures that prevent wasteful, inefficient, or unnecessary energy consumption.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Pursuant to CEQA Guidelines, Staff assessed whether OMGP's use of natural gas would result in 1) an adverse effect on local and regional energy supplies and resources; 2) a requirement for additional energy supply capacity; 3) noncompliance with existing energy standards; or 4) the wasteful, inefficient, and unnecessary consumption of fuel or energy.¹³ (Ex. 64, p. 328.)

1. Potential Effects on Energy Supplies and Resources

The project will burn natural gas at a maximum rate up to 84.6 million Btu per day lower heating value (LHV). (Ex. 64, p. 328; Ex. 1, Figures 3.4-1A through 3.4-1C.) According to Staff, this is a substantial rate of energy consumption that may impact energy supplies or resources. (Ex. 64, p. 328.)

2. Need for Additional Energy Supplies or Capacity

Since the gas supply system is vast and well-established,¹⁴ there is no likelihood that OMGP will require development of new energy resources. (Ex. 64, p. 329.)

¹³ See, CEQA Guidelines, 14 California Code of Regulations, Section 15000 et seq., Appendix F.

¹⁴ The project will obtain natural gas supplied by SDG&E, which draws gas from the SoCalGas system and from the proposed North Baja/TGN pipeline system. Both SoCalGas and North Baja will receive gas from El Paso Natural Gas Company system, which accesses gas reserves in

Nevertheless, gas availability in the SDG&E service area is constrained due to limited pipeline capacity to serve the existing Encina and South Bay power plants in San Diego as well as the Rosarito project in Mexico. (Ex. 76; Ex. 64, Appendix A; see, **Power Plant Reliability**, *infra*.)

Applicant proposes two natural gas pipeline interconnections. (11/14/00 RT 169-170.) Route 2A would interconnect to SDG&E's Pipeline 2000 at the SDG&E Harvest Regulator Station. (Ex. 1, /1.5.5.) Route 2B would interconnect at the SDG&E's existing metering station at the US/Mexico border (Otay Metering Station). A short extension across the border would then interconnect with Sempra Energy Mexico's Transportadora de Gas Natural de Baja California (TGN) pipeline that will be supplied via the proposed North Baja Pipeline. (Ex. 52, p. 5; Ex. 67, p. 1; Ex. 75: Testimony of Eric Eisenmann, pp. 1-3.) Pipeline 2000 and the border extension to the Otay area have already been completed. (11/14/00 RT 240.)

The application for the North Baja Pipeline, proposed by PG&E, Sempra Energy International, and Mexico's Proxima, is pending before the Federal Energy Regulatory Commission (FERC).¹⁵ (Ex. 64, Appendix A; Ex. 75: Application to FERC.) Applicant has a Precedent Agreement with the North Baja Pipeline Company for a period of 25 years to supply more than 50 percent of the project's natural gas requirements.¹⁶ (Ex. 75: Testimony of Eric Eisenmann, p. 2.)

Texas, New Mexico, Wyoming, and other states through interconnections to the Rocky Mountains and Canadian sources. (Ex. 1, /4.3.3.2; Ex. 64, p. 329.) These resources represent far more gas availability than required for the project. (*Ibid.*)

¹⁵ We take administrative notice that in February 2001, Mexico's Energy Regulatory Commission (CRE) issued a gas transportation permit to Sempra Energy International for construction of the 135-mile Mexican segment of the North Baja Pipeline project.

¹⁶ CEG Energy Options, Inc., an affiliate of the Otay Mesa Generating Company and North Baja Pipeline Company, has signed a Precedent Agreement with North Baja Pipeline, LLC to supply OMGP with 48,000 MMBtu/D of pipeline capacity for a period of 25 years. (Ex. 75: Application to FERC, Exhibit I; Testimony of Eric Eisenmann, p. 2.) North Baja will also serve the Rosarito Power Plant in accordance with the Precedent Agreement between Gasoducto Rosarito and North Baja Pipeline, LLC. (*Ibid.*) Applicant asserts that North Baja service to Rosarito will relieve

According to Applicant, the in-service date for North Baja Pipeline is November 2002, although the timeline for the permit application process cannot be determined with certainty. (*Ibid.*; 11/14/00 RT 179.)

The evidentiary record contains voluminous submittals and extensive testimony on the issue of gas supply to the San Diego region.¹⁷ Currently, the area is served only by SDG&E and SoCalGas and all parties have presented evidence that SDG&E's gas distribution system is constrained. (See, CPUC OII I.00-11-002.) SDG&E's gas delivery infrastructure was based on the presumption that the Encina and South Bay power plants were interruptible customers when SDG&E owned and controlled their demand for service. (11/14/00 RT 241-242, 256:11-19; Ex. 76, p. 5.) After the plants were sold to Intervenor Cabrillo and DENA, they opted for firm non-core service, which necessarily changed SDG&E's assumptions for handling potential curtailments.¹⁸ (*Id.*, at 242, 250.) Since November 2000, SDG&E has curtailed gas deliveries on several occasions to the Encina and South Bay plants due to unexpected demand.¹⁹ (Exs. 89, 90, 101, 111, 112.)

Intervenor Cabrillo and DENA argued that OMGP would cause additional gas curtailments to Encina and South Bay, requiring them to burn fuel oil to meet

constraints on the SDG&E system and that North Baja will be capable of serving other SDG&E customers via the TGN pipeline. (*Ibid.*) Staff agreed with this assessment. (Ex. 64, p. 321.)

¹⁷ The Committee held a conference focused on gas supply prior to the start of evidentiary hearings. (See, record of Committee Conference, July 25, 2000.) During the hearings, each of the parties submitted testimony and aggressively cross-examined witnesses on this issue.

¹⁸ SDG&E provided evidence that SoCalGas intends to expand its Line 6900 by the summer of 2001, which will provide an additional 70 mmcf/d of capacity to the SDG&E gas transportation system. (Ex. 73: Testimony of Benjamin Montoya and Attachment A: SoCalGas Advice Letter No. 2966.) Cabrillo disputed SDG&E's claim that this expansion would meet service demands. (Ex. 72, p. 6.)

¹⁹ Cabrillo and Duke argued that SDG&E's recent inclusion of the Rosarito plant in its gas distribution system via the new TGN line has strained the system and caused the curtailments. SDG&E argued that the Intervenor requires more gas as wholesale marketers of electricity and have overwhelmed the gas delivery system. (Ex. 76, pp. 8-12.) Neither of these arguments can be resolved in this forum.

demand. (Exs. 72, 104.) Fuel oil burns are restricted to *force majeure* events under San Diego Air District's Rule 69. (11/21/00 RT 117-119, 168-169.) According to the Intervenor, if Encina and South Bay cannot generate electricity due to gas curtailments or restricted fuel oil burns, then electric system reliability will be compromised. (See discussion of potential impacts to system reliability in the **Power Plant Reliability** section and potential cumulative impacts to regional air quality in the **Air Quality** section.) Intervenor Cabrillo proposed that OMGP take only non-firm gas service from SDG&E and include fuel oil as an alternative to reduce gas curtailment events at all power plants in the San Diego region, or interconnect only with the North Baja Pipeline. (Ex. 72, p. 8.)

Applicant opposes any condition that would limit the interconnection only to the North Baja Pipeline. (11/14/00 RT 169.)

Gas curtailment procedures are governed by SDG&E Rule 14, which is currently under review by the California Public Utilities Commission (CPUC). (See, CPUC Docket OII 1.00-11-002.) Any revisions to Rule 14 regarding gas curtailment protocols, which were discussed *ad infinitum* in this case, will be determined by the CPUC. (*Ibid.*)

Regarding the impacts of OMGP on the gas distribution system in the SDG&E service area, Staff and Applicant concurred in their view that i) the system is presently inadequate to serve its electric generation customers; ii) the OMGP will not make the system less reliable; and iii) the OMGP is more efficient, requiring less gas than the other plants in the SDG&E service area and may therefore ease the curtailment situation. (11/14/00 RT 203-204, 222-223; Ex. 64, Appendix A; Exs. 80, 81, 99.) Staff concluded that the gas constraint issues exist whether or not OMGP is built. (*Id.* at 222-223.)

3. Compliance with Energy Standards

No standards apply to the efficiency of OMGP or other non-cogeneration projects. (Ex. 64, p. 330.) See, Public Resources Code, section 25134.

4. Alternatives to Wasteful or Inefficient Energy Consumption

Applicant provided information on alternative generating technologies, which were reviewed by Staff. (Ex. 1, / 3.11.3 et seq.; Ex. 64, p. 332; see the **Alternatives** section of this Decision.) Given the project objectives, location, and air pollution control requirements, Staff concluded that only natural gas-burning technologies are feasible. (*Ibid.*)

Project fuel efficiency, and therefore its rate of energy consumption, is determined by the configuration of the power producing system and by selection of equipment to generate power. (Ex. 64, p. 331.) OMGP is configured as a compound-train combined cycle power plant. Electricity will be generated by two gas turbines with one shared or two separate steam turbines that operate on heat energy recuperated from gas turbine exhaust. By recovering this heat, which would otherwise be lost up the exhaust stacks, the efficiency of any combined cycle power plant is increased considerably from that of either gas turbines or steam turbines operating alone. Staff concluded that this configuration is well suited to the large, steady loads met by a baseload plant. (*Ibid.*)

The two-on-two or two-on-one power train configuration provides the option of shutting down one or more of the individual generating components while the remaining turbine(s) will continue to run at full load. This allows the plant to generate at part load while maintaining optimal efficiency. (Ex. 64, p. 331.)

Applicant will employ F class gas turbines from either General Electric, Siemens-Westinghouse, or ADEA Brown-Boveri (ABB) KA-24, all of which produce highly fuel-efficient machines. (Ex. 64, p. 332; Ex. 1, /3.4.1; Ex. 109.) The evidence indicates that Applicant considered the alternative newly developed G-class turbine. Although this new technology promises an efficiency improvement over the F-class turbine, the lack of a proven track record led Staff to conclude that employing the well-known F-class machine is reasonable. (Ex. 64, p. 333.) Project design for the OMGP also includes gas turbine inlet air cooling to increase power output. Applicant will install air cooled condensers rather than evaporative cooling, which reduces water consumption by 95 percent compared with the water requirements of plants that employ the more common evaporative cooling system. (*Id.* at p. 322.) Although, dry cooling technology tends to be less efficient on hot days, the temperate climate in the San Diego region mitigates the potential for decreased efficiency during the summer peak season. (*Ibid*; 11/13/00 RT 20-21.)

According to the evidentiary record, if OMGP is constructed and operated as proposed, the project will generate 510 MW (nominal) of electricity at a peak load efficiency between 53.8 and 56.8 percent LHV (depending on which F-class turbines are employed) compared with the average fuel efficiency of the two former SDG&E plants, i.e., Encina at 34.8 percent LHV and South Bay at 37.5 percent LHV. (Ex. 64, p. 329.)

COMMISSION DISCUSSION

Under this topic, the question is whether OMGP will exacerbate an existing gas delivery problem in the SDG&E system and therefore contribute to adverse effects on energy supplies. The evidentiary record indicates that daily demand with the addition of Rosarito and OMGP could outstrip the capability of the system to supply its customers on a peak day. Operation of the North Baja Pipeline will alleviate this deficit and allow OMGP to operate as a baseload

facility, while providing sufficient gas to Rosarito to support its planned expansion. Pending CPUC resolution of SDG&E's request to modify Rule 14, SDG&E will apparently proceed with its existing curtailment protocol. OMGP will be subject to Rule 14 if it receives service from SDG&E. (11/14/00 RT 247.) Terms of the service contract between the OMGP project owner and SDG&E are beyond the jurisdiction of this forum.

Cabrillo presented extensive testimony regarding OMGP's potential gas requirements on peak days to show that Staff's and Applicant's modeling analyses underestimated potential demand. Although the expert witnesses disagreed on appropriate assumptions to use in the modeling exercises, we do not need to reconcile the inconsistent estimates because the record is clear that the gas distribution system is constrained with or without OMGP.

The obvious solution is interconnection with the prospective North Baja Pipeline, which will bring sufficient gas capacity to serve not only OMGP, but also Rosarito and other SDG&E customers. There is undisputed evidence that FERC is aware of the urgent need for new pipeline capacity additions to California and the West.²⁰ In developing the OMGP, Applicant assumed the risk that North Baja may not be available prior to OMGP's commercial online date in 2003. In the event that North Baja is not available, SDG&E may likely curtail gas deliveries to OMGP, resulting in diminished generating output. However, as the record indicates, it is highly likely that the SDG&E system will be expanded by 70 MMcfd as early as summer 2001. Additionally, the significantly greater efficiency of the OMGP will serve to improve electricity supply compared with the less efficient Encina and South Bay plants that require more gas to produce relatively less power.

²⁰ See, Summary of Testimony of Chairman Curt H bert of the Federal Energy Regulatory Commission before the Subcommittee on Energy and Air Quality of the Energy and Commerce Committee in the United States House of Representatives, February 28, 2001, at pp. 10-12.

OMGP requests interconnection to both Line 2000 and the TGN line supplied by North Baja to ensure an adequate gas supply to the project and, ultimately, to ensure that constraints on the SDG&E system are alleviated. We approve this request.

Potential health effects from fuel oil burning by Encina and South Bay units are presently under review by the San Diego County Air Pollution Control District, which is a party to the CPUC proceeding on Rule 14. See, the **Air Quality** section for further discussion on this issue.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. SDG&E's gas distribution system is constrained whether or not the OMGP is built.
2. OMGP will interconnect to both SDG&E's Line 2000 at SDG&E's Harvest Regulator Station and to the proposed North Baja Pipeline at SDG&E's existing metering station at the US/Mexico border (Otay Metering Station) via a short extension across the border to the TGN pipeline system.
3. The North Baja Pipeline will alleviate gas constraints on the SDG&E system.
4. As a customer of SDG&E, OMGP will be subject to the gas curtailment protocol described in SDG&E's Rule 14.
5. OMGP will not require the development of any new fuel resources since natural gas resources exceed the fuel requirements of the project.
6. OMGP will not consume natural gas in a wasteful, inefficient, or unnecessary manner.
7. The project design, incorporating two-on-one or two-on-two power trains and employing highly efficient F-class turbines, will allow the power plant to generate electricity at less than full load while maintaining optimal efficiency.

8. The anticipated operational efficiency of the project is consistent with that of comparable power plants using similar technology and significantly more efficient than the older power plants formerly owned by SDG&E.
9. The project owner assumes the risk that the North Baja Pipeline interconnection may not be available prior to OMGP's commercial online date.

The Commission therefore concludes that OMGP will not cause any significant direct or indirect adverse impacts upon energy resources. The project will conform with all applicable laws, ordinances, regulations, and standards relating to fuel efficiency as identified in the pertinent portions of APPENDIX A of this Decision. No Conditions of Certification are required for this topic.

C. POWER PLANT RELIABILITY

The Warren-Alquist Act requires the Commission to examine the safety and reliability of the proposed power plant, including provisions for emergency operations and shutdowns. [Pub. Resources Code, / 25520(b)]. There are presently no laws, ordinances, regulations, or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Commission must determine whether the project will be designed, sited, and operated to ensure safe and reliable operation. [Cal. Code of Regs., tit. 20,/1752(c)(2).]

In California's competitive electric power industry, the California Independent System Operator, (Cal-ISO) has the primary responsibility for maintaining system reliability. To provide an adequate supply of reliable power, Cal-ISO has imposed certain requirements on power plants selling ancillary services and holding reliability must-run contracts, such as: 1) filing periodic reports on reliability; 2) reporting all outages and their causes; and 3) scheduling all planned maintenance outages with the Cal-ISO. In the absence of clear guidelines on reliability standards, the Commission believes that power plant owners should continue to maintain the same levels of reliability that the power industry has achieved in recent years. This view has been challenged by the volatile nature of the current energy market. Although we have addressed various energy market issues in other proceedings and we acknowledge the evolving nature of state policy on power production and distribution, our findings in this case are limited to the evidence of record.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Staff examined the project's design criteria to determine whether it will be built in accordance with typical power industry norms for reliable electricity generation. (Ex. 64, p. 319.) According to Staff, project safety and reliability are achieved by

ensuring equipment availability, plant maintainability, fuel and water availability, and adequate resistance to natural hazards. (*Ibid.*)

1. Equipment Availability

OMGP will ensure equipment availability by use of quality assurance/quality control programs (QA/QC), which include inventory review, and equipment inspection and testing on a regular basis during design, procurement, construction, and operation. (Ex. 1, / 4.3.5.) Qualified vendors of plant equipment and materials will be selected based on past performance to ensure acquisition of reliable equipment. (*Ibid.*; Ex. 64, p. 319.) Implementation of these programs will be monitored by appropriate Conditions of Certification, which are included in the **Facility Design** section of this Decision.

Applicant's proposal to use SCONOX technology to control gas turbine NO_x emissions has not demonstrated adequate reliability on a scaled-up basis compatible with the design requirements of OMP. (Ex. 64, p. 324.) The evidentiary record indicates that Applicant will employ SCR and dry low-NO_x combustors if SCONOX is unavailable. (Ex. 1, // 1.5.2, 3.4.1, 3.4.10.1.1.) SCR and dry-low NO_x combustors are proven technologies that pose no reliability concerns. (Ex. 64, p. 324.)

2. Plant Maintainability

The evidentiary record indicates that project design includes sufficient redundancy of equipment and systems for the combined cycle to ensure continued operation in the event of equipment failure. (Ex. 64, p. 320; Ex. 1, // 3.4.5.3, 3.4.6, 3.9.2.6.1, 3.9.2.7, 4.3.2.) The two parallel trains of gas turbine generators/HRSGs provide inherent reliability. Failure of a non-redundant component of one power train will not cause the other train to fail; rather, the plant will continue to generate at reduced output. This ability to continue

operation even with equipment failure demonstrates adequate equipment redundancy to meet typical industry reliability standards. (Ex. 64, p. 320.) Project maintenance will be typical of the industry. Any necessary outages will be planned for periods of low electricity demand and coordinated with Cal-ISO's scheduling requirements. (*Ibid.*)

3. Fuel and Water Availability

The long-term availability of fuel and water is necessary to ensure project reliability. As noted previously, SDG&E's natural gas distribution system is constrained. The CPUC recently instituted proceedings on gas transmission in the San Diego Region (CPUC I.00-11-002). Some of the same issues raised in this case regarding curtailment and gas availability will be addressed by the CPUC. As we find in the section on **Power Plant Efficiency**, the long-term solution with respect to OMGP will occur when the prospective North Baja pipeline is approved by FERC and constructed as proposed.

a. Natural Gas

SDG&E's Initial Response to the CPUC's OIR on gas transmission (CPUC I.00-11-002) describes the background regarding issues of fuel availability to OMGP. (Ex. 76.)

The SoCal Gas gas transmission system provides SDG&E customers with access to plentiful natural gas supplies from the Southwest, Rocky Mountains, and Canada. SoCalGas serves SDG&E off two local transmission systems along the northern border of San Diego County. The San Onofre metering station on the coast receives about 10 percent of gas deliveries to SDG&E and the Rainbow metering station at the Riverside/San Diego County border receives 90 percent. Two pipelines (30 inches and 16 inches in diameter) extend south from Rainbow to serve most of SDG&E's customers. SDG&E also owns compressor

stations at Rainbow and Moreno Valley, which is an integral part of the SoCalGas Moreno to Rainbow transmission system. The southern part of the SDG&E system is served by a 36-inch pipeline and feeder system that delivers gas to about 50 percent of SDG&E's customers. A new feeder line connects the 36-inch pipeline to the US/Mexico border, where gas is metered and delivered to the Rosarito power plant. (Ex. 76, p. 4.)

SDG&E provides three levels of service to its customers: core (residential, small commercial), firm noncore (industrial and electric generators or EGs), and interruptible noncore (none at the present time). When SDG&E owned the Encina and South Bay power plants, they took interruptible service and were subject to first curtailment in the event that demand exceeded capacity. (Ex. 76, p. 5.) Cabrillo and DENA purchased the plants in 1999 and switched to firm service in 2000.²¹ In SDG&E's 1999 Biennial Cost Allocation Proceeding (BCAP), SDG&E filed noncore reliability criteria, which included Rosarito and the proposed OMGP because both potential customers indicated interest in receiving firm service. The BCAP did not include then interruptible customers Encina and South Bay. Neither Cabrillo nor DENA challenged the noncore reliability criteria although they were parties to the proceeding. (*Id.*, pp. 9, 23.)

SDG&E's gas curtailment rules are set forth in SDG&E's Rule 14, which was established by the CPUC in the early 1990s and is similar to the curtailment rules of PG&E and SoCalGas. (Ex. 76, p. 25.) After interruptible noncore customers are curtailed, then firm noncore customers are subject to curtailment according to a rotating block curtailment system. (*Ibid.*) Until November 14, 2000 (the second day of evidentiary hearings in this matter), SDG&E had only curtailed its electric generators twice in the previous six years. Since that time, Encina and South Bay have been curtailed numerous times, resulting in the use

²¹ Firm noncore service requires a two-year customer commitment and firm rates cannot be negotiated. Interruptible service requires only a 30-day commitment and can be negotiated. (Ex. 76, fn 23.)

of fuel oil, which is limited by the San Diego County Air Pollution Control District's Rule 69. (Exs. 101, 111, 112.) SDG&E blames the electric generators for the oversubscribed demand for natural gas. The current wholesale electric marketplace is providing incentives to SDG&E's EG customers to generate more power, more often, in order to capitalize on market prices which are significantly higher than they have been prior to this year. (Ex. 76, pp. 10-11.) SDG&E also notes that in April 2000, Cabrillo and DENA provided forecasts of their gas usage indicating expectations similar to past usage. (Ex. 76, p. 12.) None of the parties predicted the electricity deficit in the winter of 2000-2001 or the necessity for RMR calls by Cal-ISO.²²

SDG&E and SoCalGas held an open season in 2000 to determine whether noncore customers were interested in long-term transportation service contracts to support capital improvements necessary to enhance the reliability of SDG&E's system. SDG&E indicates that none of its noncore customers, including the EGs responded. (Ex. 76, p. 17.) Other factors are also at issue in the CPUC proceeding, including the actual or perceived strain on the gas distribution system created by serving the Rosarito power plant. SDG&E maintains that it has capacity to serve all the noncore EG customers, including OMGP. In the short-term, SDG&E requests the CPUC to revise Rule 14 to allow *pro rata* curtailments and also to approve expanded capacity on Line 6900. (*Id.* at 31-32.)

Cabrillo and DENA argue that OMGP's natural gas requirements will cause additional curtailments. The evidentiary record contains analyses and rebuttal analyses of modeling results provided by SDG&E for electricity demand in the summer peak seasons in 2002 and 2005. SDG&E's modeling results are shown in the Facilities Study Final Report. (Ex. 35.) Although there are areas of disagreement regarding assumptions and estimates of electricity demand, Staff,

²² DENA and Cabrillo assert that increased demand is due to reliability must run (RMR) and out of market (OOM) calls from Cal-ISO to alleviate emergency conditions on the grid. (Exs. 111 and 112.)

Applicant, and SDG&E agree that OMGP can reliably be served by SDG&E without compromising the other EG customers based on one or more of the following scenarios: i) no upgrades to the system with implementation of a *pro rata* curtailment program, ii) the expansion of Line 6900; and iii) the construction of the North Baja Pipeline. (Ex. 64, Appendix A, Exs. 68, 80, 81, 90.)

Cabrillo's witness challenged the assumptions and conclusions offered by Staff, Applicant, and SDG&E, asserting that they failed to account for winter peak days or to consider the increased need for new generation due to reduced imports as well as the need for San Diego generators to serve the L.A. air basin due to the high cost of obtaining offsets in L.A. (Ex. 104.) According to Cabrillo, the OMGP would reduce or block access to electricity imports from the Southwest Power Link, resulting in more demand for Encina and South Bay to meet reliability must run (RMR) or out of market (OOM) calls. (*Ibid.*; Ex. 72, p. 5; Ex. 112.) Applicant and Staff argued that OMGP would decrease the dispatch requirements of Encina and South Bay because the new project is more efficient than the existing generators. (Ex. 99; 11/14 RT 205-206.)

SDG&E indicated that compliance with peak load reliability criteria would be managed by Cal-ISO within the operating nomogram constraints established in the Final Facility Study Report for the OMGP. (Ex. 73: testimony of Robin Tenoso, Appendix A.) SDG&E noted that OMGP's output would need to be reduced as imports are maximized. (*Ibid.*; see, discussion in **Transmission System Engineering**, *infra.*) Condition **TSE-1(g)** requires the project owner to provide an Interconnection Agreement approved by Cal-ISO as evidence that SDG&E's Transmission Plan of Service will be implemented. (*Ibid.*)

OMGP's two proposed gas pipeline interconnections to SDG&E's Line 2000 and to the TGN line supplied by the North Baja Pipeline as described in **Power Plant Efficiency**, *ante*, indicate that the project is likely to receive adequate gas

delivery to reliably generate power according to SDG&E's Transmission Plan of Service. (11/14 RT 221-226.)

b. Water

Applicant will use dry cooling technology, which reduces the project's overall water consumption to 5 percent of the water required by plants that use the evaporative (wet) cooling system. (Ex. 64, pp. 322, 324.) Water needed for domestic uses and fire protection, as well as feedwater for other plant processes, will be supplied by the Otay Water District (OWD), which has more than sufficient water to supply the project's operating needs. (Ex. 43: Will Serve Letter ; see **Soil and Water Resources**.) Although dry cooling greatly reduces water consumption, hot weather interferes with the cooling process and may result in the curtailment of power production. Applicant's testimony indicated that temperate weather conditions in the San Diego region make it economically feasible to install dry cooling at OMGP. (11/13/00 RT 19-21.) It is likely therefore that the project owner will choose appropriate dry cooling technology to maintain project availability and reliability. (Ex. 64, pp. 322, 324.)

4. Natural Hazards

Given the geological location of the project site, there is potential for seismic shaking to threaten reliable operation. (Ex. 64, p. 323; see, **Geology and Paleontology**.) The site is located in Seismic Zone 4, where several active earthquake faults are found. (*Ibid.*) OMGP will be designed and constructed to comply with current applicable LORS for seismic design, thus representing a reliability upgrade compared with older power plants.²³ Condition of Certification **STRUC-1** in the **Facility Design** portion of this Decision ensures that the project will conform with seismic design LORS.

5. Availability Factors

Applicant predicts the project will have an annual availability factor of 93 percent. (Ex. 1, // 2.1.) Industry statistics for power plant availability are compiled by the North American Electric Reliability Council (NERC). (Ex. 64, p. 323.) NERC's statistics show an availability factor of 91.10 percent for combined cycle units of all sizes. (*Ibid.*) Although the NERC figure is lower than Applicant's proposed availability factor, Staff expects that a modern, baseload facility such as OMGP will likely outperform the NERC average, especially since maintenance will occur when full plant output is not required to meet market demand. (*Ibid.*)

The evidentiary record indicates that the proposed 93 percent availability factor is consistent with industry norms for power plant reliability. (*Ibid.*; Ex. 1, // 3.9.2.2 and 4.3.1.1.) Since the project is designed to conform to industry norms, Staff concluded that OMGP would perform reliably in baseload duty and/or reduced load and cause no significant impacts to electric system reliability. (Ex. 64, p. 325 and Appendix A.)

COMMISSION DISCUSSION

The parties offered various forecasts and predictions about electricity demand and the concomitant gas demand over the next several years. As certified, OMGP will not be available for commercial operation until 2003. Given the present uncertainty regarding the viability of the electricity market in California, the rising price of natural gas, and the evolving state policy on addressing these issues, we believe that the disputed forecasts cannot be reconciled or distinguished. Notwithstanding the conflicting evidence in this case, there is a common premise that the greater efficiency of OMGP compared with the older

²³ Staff expects the project, designed to current seismic standards, will perform at least as well as or better than existing plants in a seismic event. Staff noted that California's electric system has typically been reliable during seismic events. (Ex. 64, p. 323.)

Encina and South Bay units will result in a more competitive market in San Diego. Some of the parties prefer this situation and some do not.

SDG&E maintained that OMGP would not degrade system reliability or increase gas delivery constraints. Appropriate mitigation measures including congestion management will be implemented in accordance with peak load reliability criteria. (See, **Transmission System Engineering**, *infra.*) We are persuaded by SDG&E's assurances, which are subject to review by both the CPUC and Cal-ISO. We therefore conclude that the project has appropriate equipment availability and redundancy to provide inherent reliability, and that natural gas constraints in the San Diego region will not be exacerbated by OMGP.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. The Otay Mesa Generating Project (OMGP) will ensure equipment availability by implementing quality assurance/quality control programs and by providing adequate redundancy of auxiliary equipment to prevent unplanned off-line events.
2. OMGP's two parallel trains of gas turbine generators/HRSGs and two steam turbine generators provide inherent reliability.
3. Planned maintenance outages for each of the turbine generators can be scheduled in sequence during times of low regional electricity demand.
4. There is adequate water availability for project operations.
5. The project is designed to withstand seismic shaking that would compromise project safety and reliability.
6. The project's estimated 93 percent availability factor is consistent with industry norms for power plant reliability.
7. Natural gas supply is constrained in the SDG&E distribution system.

8. Natural gas constraints will be addressed by revisions to SDG&E s Rule 14 on curtailments as determined by the CPUC and/or additional capacity such as the availability of interconnection with the North Baja Pipeline.
9. SDG&E s congestion management measures ensure that OMGP will conform to reliability criteria approved by Cal-ISO.

The Commission, therefore, concludes that the project will be constructed and operated in accordance with typical power industry norms for reliable electricity generation. No Conditions of Certification are required for this topic. To ensure implementation of the QA/QC programs described above, appropriate Conditions of Certification are included in the **Facility Design** portion of this Decision.

D. TRANSMISSION SYSTEM ENGINEERING

The Commission's jurisdiction includes "...any electric power line carrying electric power from a thermal power plant ...to a point of junction with an interconnected transmission system." (Pub. Resources Code, § 25107.) The Commission reviewed the engineering and planning design of OMGP's proposed transmission facilities to ensure that they will be designed, constructed, and operated in compliance with applicable law. These transmission facilities include the power plant switchyard, the transmission outlet lines, the point of interconnection to the power grid system, and necessary modifications to existing transmission facilities.

The California Independent System Operator (Cal-ISO) works in conjunction with the Participating Transmission Owners, in this case San Diego Gas & Electric (SDG&E), to determine appropriate mitigation for reliability and congestion impacts associated with new generation. SDG&E prepared a Facilities Study Final Report to assess the potential reliability and congestion impacts associated with the project. (Ex. 35.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Transmission Facilities

OMGP will generate a nominal electrical output of 510 MW. The transmission facilities include a new 230 kV switchyard and two new 0.1-mile 230 kV double circuit outlet lines. The outlet lines will interconnect with SDG&E's existing Miguel-Tijuana transmission line, which runs along the eastern border of the project site. The Miguel-Tijuana line travels north-south from the Miguel Substation, about 9.05 miles north of the site, to the Tijuana Substation about 1.5 miles south of the site. (Ex. 64, p. 341.) The Miguel-Tijuana line is constructed as a double circuit line but operates as a single circuit at the present time. OMGP's power output requires reconductoring of the line from the point of

interconnection to the Miguel substation to accommodate the additional generation.²⁴ (*Ibid.*) Potential environmental impacts related to reconductoring activities will be insignificant. (See, generally, the sections on environmental assessment in this Decision.)

The new outlet lines from the OMGP switchyard will be carried on parallel single pole, double circuit structures to interconnect with the existing transmission line. The reconducted double circuit portion of the line from the project interconnection point to the Miguel Substation will be renamed the Miguel-OMGP line. The portion of the line south of the interconnection point to the Tijuana Substation will be the Tijuana-OMGP line and will continue to use the existing single circuit conductor. (Ex. 64, p. 343.)

The reconductor will be bundled 900 kcmil aluminum conductor with steel supported (ACSS) known as “Canary.” (Ex. 1, § 3.11.5.3.) The bundled conductors are rated at 1417 MVA per circuit, which is adequate to provide for the high temperature emergency operation that may be needed during transmission facility outages. The new circuit connecting the project to the interconnection point of the Tijuana-OMGP line will require the same conductor that is currently in service on the existing lines, which is single 1033.5 kcmil aluminum conductor steel-reinforced (ACSR) known as “Ortolan.” These conductors are rated at 912 MVA, which is adequate to accommodate power flows on the Tijuana-OMGP line. (*Ibid.*; see also Ex. 73: Testimony of Robin Tenoso, p. 2.)

Applicant did not evaluate alternative routes for the interconnection due to the practicality of using the existing Miguel-Tijuana line. A 500 kV interconnection would require acquisition of new rights-of-way for construction of another

²⁴ Reconductoring consists of removing the old insulators, installing new insulators, and replacing the old conductors with a higher capacity.

transmission line to the Miguel Substation, which is not cost-effective or necessary. (Ex. 1, §§ 3.11.5.2, 3.11.5.4, and 3.11.5.5.)

2. Facilities Study Final Report

SDG&E's Facilities Study Final Report for the OMGP was submitted to Cal-ISO for review.²⁵ (Exs. 35 and 68.) The Facilities Study identifies system reliability concerns and potential congestion impacts resulting from the addition of the OMGP to the ISO-controlled grid. (Ex. 68, p. 1.) SDG&E applied the following reliability criteria used by Cal-ISO to measure transmission system performance: the Cal-ISO Grid Planning Criteria, the Western Systems Coordinating Council (WSCC) Reliability Criteria, and the North American Electric Reliability Council (NERC) Planning Standards. (*Id.* at p. 2.)

Cal-ISO reviews any proposed additions to the ISO-Controlled Grid ("grid") to ensure that expansion projects do not negatively impact the regional grid or transmission owners in other states. (Ex. 68, p. 2.) Congestion created as a result of new generation is managed according to Congestion Management Procedures specified in Cal-ISO Protocols.²⁶ (*Ibid.*)

Based on SDG&E's Facility Study, Cal-ISO considered several possible dispatch conditions, some of which would require upgrades beyond the Miguel Substation. Options A (138 kV system upgrades) and B (new 230 kV line from Miguel to Mission) would provide operating flexibility, economic benefits, and reliability but are not necessary to meet applicable reliability criteria. (Ex. 68 at p. 3 and Appendix A.) Option F (congestion management and remedial action scheme) would not be acceptable as a long-term option and is likewise not necessary for

²⁵ Applicant executed a Facilities Study Agreement with SDG&E to develop the Facilities Study. (Ex. 9.)

²⁶ Since Cal-ISO currently does not have a FERC-approved new generator interconnection policy, its review and recommendations are based on SDG&E's existing tariff for interconnection procedures. (Ex. 68, p. 4; 11/14/00 RT 123-125.)

OMGP to interconnect with the grid. (*Ibid.*) Consequently, Cal-ISO determined that Option I (reconductoring to Miguel and congestion management) would maintain reliable operation of the transmission system in light of Applicant's request to *interconnect* to the grid rather than a request for transmission service. (*Ibid.*; 11/14/00 RT 122:10-24.)

Cal-ISO determined that pre-existing reliability problems between Miguel Substation and SDG&E load centers are not related to interconnecting OMGP. (Ex. 68, pp. 5-6.) Numerous power flow scenarios and contingencies were analyzed in determining the feasibility of OMGP. The studies assessed thermal overload impacts with reduced power imports between Arizona and SDG&E, and with unabated imports between Arizona and SDG&E, as well as imports and deliveries from CFE via the Tijuana-Otay line. (Ex. 64, p. 347; Ex. 73: Attachment B.) The studies show a number of circuits are approaching thermal limitations that can be avoided through congestion management in conjunction with cross-tripping of the Tijuana-Otay line. (*Ibid.*) No generation tripping is required. (Ex. 73: Testimony of Robin Tenoso, p. 2.)

In response to cross-examination by Intervenor Cabrillo to ascertain whether OMGP would adversely impact system reliability (and specifically, the dispatchability of Encina), Cal-ISO's representative Mr. Tobias testified that local reliability problems exist with or without OMGP and resolution would be pursued during Cal-ISO's annual transmission study:

And also we looked at what was identified as local reliability problems. And those were caused by the fact that [SDG&E], up to this period, has not planned their system at less than relying on the full output of our units.

And under that context whether or not Otay Mesa is there or not, if those units are less than maximum output you can see some local reliability problems there.

And so, within the context of resolving that, and this is a resolution that's in place now, before Otay Mesa, and would be in place with a congestion management after Otay Mesa.

And that is the redispatch of existing units within San Diego. Which means that with those local reliability problems that you could identify it as being caused by a combination of either imports, and Otay Mesa coming into the system, increasing the generation of that, Encina and South Bay would solve it.

That's no different than what's done right now.²⁷

Mr. Tobias also indicated that due to the "comprehensive market redesign going on," scenarios that anticipate potential impacts of OMGP on import capability cannot be described with certainty. (11/14/00 RT 131:19-21, 132-133.) Staff's witness, Mr. Vartanian, explained that SDG&E would not require maximum generation from OMGP and maximum import at the same time so concerns about constrained import capability under that scenario are not credible.²⁸ (*Id.* at 269-270; see also, Ex. 73: Attachment B.) FERC's pending approval of Cal-ISO's proposed interconnection policies will ultimately define system operation under congested conditions. (11/14/00 RT 131-132.)

3. Short Circuit and Stability Studies

Cal-ISO requires a short-circuit analysis to assure that breaker ratings are sufficient to withstand high levels of current during a fault (such as when a line touches the ground). The acceptability of breaker ratings will be determined during the compliance phase since the replacement of circuit breakers is a modification "within the fence" that does not warrant further environmental

²⁷ 11/14/00 RT 126-127

²⁸ SDG&E provided electrical supply dispatch scenarios for four separate operational cases, which were originally developed in the Facilities Study Final Report and modified to incorporate updated load forecast data and assumed congestion management. (Ex. 73: Attachment B.) The four scenarios reflect SDG&E's most recent system forecasts for 2002 and 2005. Although it was anticipated that OMGP would be operating in 2002, the more realistic online date is 2003. Maximum import would require reduced dispatch at OMGP. (*Ibid.*)

analysis. (Ex. 64, p. 346.) Condition **TSE 1(b)** ensures that the breaker ratings will comply with Cal-ISO's short circuit analysis.

Stability studies will be conducted to determine if the transmission system would remain stable during normal and abnormal operating conditions with the project connected to the system. (Ex. 64, p. 346.) Cal-ISO requests that stability studies be incorporated into the Detailed Facilities Study. Condition **TSE-1(h)** requires OMGP to provide the final approved Detailed Facilities Study (including the stability studies) and Interconnection Agreement to the Commission prior to construction of any transmission facilities.

4. Closure

Procedures for planned, unexpected temporary, or permanent closure will be developed to facilitate effective coordination between the project owner, the PTO, and Cal-ISO to ensure safety and system reliability. The California Public Utilities Commission (CPUC) has promulgated rules under General Order 95 (GO-95) that apply to project closure procedures. Condition **TSE-3** requires OMGP to comply with these CPUC rules. (Ex. 64, pp. 347-348.) Condition **GEN-9** in the **Facility Design** section requires OMGP to provide a Closure Plan at least 12 months prior to commencing closure activities. The **Compliance Plan** section of this Decision contains additional provisions to ensure that project closure would be consistent with applicable law.

COMMISSION DISCUSSION

The evidence of record establishes that OMGP's transmission facilities will be designed, constructed, and operated in conformance with applicable law. (See, Ex. 1, Appendix E.) The Commission relies on Cal-ISO's determinations regarding the project's potential reliability and/or congestion impacts and has adopted Cal-ISO's finding that OMGP can reliably connect to the grid.

Potential cumulative impacts may include a reduced level of import capability into the San Diego Region; however, SDG&E's system planning forecasts account for this contingency. Intervenor Cabrillo challenged SDG&E's assumptions by posing the likelihood of winter peak loads that may not be included in the forecasts. (Ex. 72.) We reject the notion that Cabrillo's analysis should trump the utility's forecasts. Cabrillo has the opportunity to participate in developing SDG&E's long-term forecasts and to present its proposed assumptions in that process. Here, SDG&E and Cal-ISO agree that OMGP can reliability interconnect to the grid. We are confident that their recommendation is appropriate.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. The Otay Mesa Generating Project will interconnect with the Cal-ISO controlled grid by connecting with SDG&E's existing Miguel-Tijuana 230 kV line that terminates at the Miguel Substation to the north and the CFE Tijuana Substation to the south.
2. SDG&E performed a Facilities Study Final Report to analyze the potential reliability and congestion impacts resulting from OMGP interconnection to the grid.
3. Cal-ISO reviewed the Facilities Study Final Report and determined that OMGP can reliably interconnect to the Cal-ISO Controlled Grid using congestion management and by reconductoring the Miguel-Tijuana line.
4. To mitigate potential impacts, the project owner will reductor 9.05 miles of the Miguel-Tijuana line from the point of interconnection to the Miguel Substation.
5. Project-related reductoring activities will conform to CPUC General Order 95.
6. The issuance of the Cal-ISO's final interconnection approval will assure conformance with NERC, WSCC and Cal-ISO reliability criteria.

7. The project owner will provide the Detailed Facilities Study and the Cal-ISO approved Interconnection Agreement prior to construction of transmission facilities.

The Commission therefore concludes that implementation of the measures specified in the Conditions of Certification listed below will ensure that OMGP's transmission facilities are designed, constructed, and operated in compliance with all applicable laws, ordinances, regulations, and standards relating to transmission system engineering as identified in **APPENDIX A** of this Decision.

CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to requirements listed below. The substitution of Compliance Project Manager (CPM) approved "equivalent" equipment and equivalent switchyard configurations is acceptable.

- a. The transmission facilities shall meet or exceed the requirements of CPUC General Order 95, Title 8, CCR section 27000 et seq., "High Voltage Electric Safety Orders," National Electric Code (NEC), and Industry Standards.
- b. Breakers and bus in the power plant switchyard and other switchyards or substations where applicable shall be sized to comply with a short circuit analysis.
- c. Approximately 9.05 circuit miles of the existing SDG&E Miguel-Tijuana 230 kV lines from the OMGP to Miguel substation shall be reconducted using bundled 900 kcmil aluminum conductor, steel supported (ACSS), also known as "Canary" and the circuits will be operated as a double circuit line.
- d. Termination facilities shall comply with applicable Cal-ISO and SDG&E interconnection standards (SDG&E Technical Standards for Load and Non-SDG&E Owned Generator Interconnections and CPUC Rule 21).
- e. Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner/operator no later than 30 days prior to planned construction and comply with the owner's standards
- f. The new outlet transmission facilities shall use steel pole construction.

- g. The project owner shall provide a Detailed Facilities Study including a description of congestion management requirements, RAS sequencing and timing, if required, and an executed Facility Interconnection Agreement for the OMGP transmission interconnection with SDG&E. The Detailed Facilities Study shall include the analysis recommended by the Cal-ISO (Exhibit 68) and shall evaluate reactive margin for the SDG&E and adjacent service areas. The Detailed Facilities Study and Interconnection Agreement shall be coordinated with the Cal-ISO and shall comply with the Cal-ISO's tariffs.

Verification: At least 60 days prior to start of construction or modification of transmission facilities or switchyards, the project owner shall submit for approval to the CPM, electrical one-line diagrams signed and sealed by a registered professional electrical engineer in responsible charge, a route map, the Detailed Facilities Study and the Final Interconnection Agreement, and an engineering description of equipment and the configurations covered by requirements 1a through 1g above. Substitution of equipment and line or substation configurations shall be identified and justified by the project owner for CPM approval. At least 30 days prior to planned construction, the project owner shall coordinate any outlet line crossings and lines paralleling transmission distribution, with the transmission line owner operator.

TSE-2 The project owner shall inform the CPM of any impending changes, which may not conform to the requirements 1a through 1g of **TSE-1**, and have not received CPM approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment; transmission facilities or switchyard configurations shall not begin without prior written approval of the changes by the CPM.

Verification: At least 60 days prior to construction of transmission facilities, the project owner shall inform the CPM of any impending changes which may not conform to requirements of **TSE-1** and request approval to implement such changes.

TSE-3 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction and any subsequent CPM approved changes thereto, to ensure conformance with CPUC GO-95, SDG&E Interconnection Handbook, Cal-ISO tariffs and CPUC Rule 21 and these Conditions of Certification.

Protocol: In case of non-conformance, the project owner shall inform the CPM in writing within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within 60 days after synchronization of the project, the project owner shall transmit to the CPM an engineering description(s), and one-line drawings of the “as-built” facilities signed and sealed by a registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95, SDG&E Interconnection Handbook, Cal-ISO tariffs, CPUC Rule 21 and these Conditions of Certification shall be concurrently provided.

E. TRANSMISSION LINE SAFETY AND NUISANCE

The project transmission line must be constructed and operated in a manner that protects environmental quality, assures public health and safety, and complies with applicable law. This analysis reviews the potential impacts of the project transmission line on aviation safety, radio-frequency interference, audible noise, fire hazards, nuisance shocks, hazardous shocks, and electric and magnetic field exposure.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Description of Transmission Line

The OMGP will interconnect to SDG&E's existing Miguel-Tijuana 230 kV transmission line via a new 0.1-mile 230 kV outlet line from the project switchyard. The Miguel-Tijuana line travels 9.3 miles northwest from the Mexican border along the foot of the San Ysidro Mountains, past Donovan state prison and Otay Valley, to the Miguel substation. Two other lines (one 12.47 kV and one 69 kV line) share the right-of-way with the Miguel-Tijuana line in portions of its route. As a result of project interconnection to the SDG&E grid, it is necessary for Applicant to reconductor the Miguel-Tijuana line for 9.05 miles from the interconnection point to the Miguel substation. (Ex. 1, § 4.2.1; Ex. 64, pp. 61-62.) There are no residential areas along the route except for a portion of the line that runs along the western boundary of the Eastlake residential area. (Ex. 1, § 4.2.2.)

2. Potential Impacts

a. Electric and Magnetic Field Exposure

The possibility of deleterious health effects from exposure to electric and magnetic fields (EMF) has increased public concern about living near high-voltage lines. (Ex. 64. p. 59.) The available data evaluated by the California

Public Utilities Commission (CPUC) and other regulatory agencies do not definitively establish that EMF poses a significant health risk nor prove the absence of health hazards.²⁹ (*Ibid.*) Under CPUC policy, the regulated utilities have adopted EMF-reducing design criteria to limit EMF levels for new and upgraded transmission facilities to levels no greater than those of existing transmission lines. (*Id.* at p. 60.) Condition **TLSN-1** requires Applicant to comply with applicable CPUC policies to ensure proper implementation of the necessary EMF-reduction measures. (*Ibid.*)

Applicant's testimony confirmed that its outlet lines and reconductoring installations would be designed according to applicable EMF guidelines for the SDG&E area. (Ex. 1, § 4.2.4 and Appendix M.) Applicant calculated the relevant field strengths at selected points of maximum intensity to compare the existing field levels with the estimated levels during facility operation. (*Ibid.*; Ex. 64, p. 64.) The calculations show that project operation will not significantly increase the intensity of the electric fields currently encountered within the right-of-way. There would be a small net increase of magnetic fields during operation but the estimated increased levels are similar to those of existing SDG&E lines with the same voltage and current-carrying capacity. (*Ibid.*; Ex. 1, Tables 4.2-1, 4.2-2, and 4.2-3.) Condition **TLSN-3** requires Applicant to measure the strengths of the electric and magnetic fields along the entire transmission line route before and after energization.

Regarding potential cumulative impacts of project-related upgrades on the Miguel-Tijuana line, Staff found that Applicant's calculations of EMF levels included the interactive effects of fields from nearby lines. (Ex. 64, pp. 64-65.) Thus, the calculated values reflected the levels of any cumulative exposures that

²⁹ Applicant cited several recent studies, including "Possible Health Effects of Exposure to Residential Electric and Magnetic Fields" (NRC, 1996 [National Academy of Sciences]) and "Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields" (NIEHS, 1999) as well as a study published in the New England Journal of Medicine. (Ex. 1, § 4.2.7.) The studies concluded that long-term exposure to EMF could not be correlated to significant health hazards. (*Ibid.*)

could occur along portions of the right-of-way that are shared with the existing 12.47 kV and 69 kV lines. Staff concluded therefore that any exposure of a cumulative nature would be at levels associated with similar 230 kV lines within the SDG&E transmission system. (*Ibid.*)

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TABLE 4.2-1
ELECTRIC FIELD VALUES (kV/m)

Milepost¹	Locations²	Existing Configuration³	Existing E-Field	Proposed Configuration³	Proposed E-Field	Net Increase/Decrease
MP-0.14 to MP-0.5	L ROW edge R ROW edge	1	0.06 0.06	2	0.16 0.16	+0.1 +0.1
MP-0.5 to MP-1.6	L ROW edge R ROW edge	3	0.19 0.10	4	0.15 0.16	-0.04 +0.06
MP-1.6 to MP-9.2	L ROW edge R ROW edge	5	0.15 0.10	6	0.18 0.16	+0.03 +0.06

Note: All values are derived from average annual loads except 69 kV and 12.5 kV loads which are peak loads.

¹ Refer to Map 3.2-1 for milepost locations.

² L ROW edge = left right of way edge; R ROW edge = right of way edge.

³ Configurations:

- 1 Existing SDG&E 230 kV Miguel-Tijuana Transmission. Figure M-2E
- 2 SDG&E 230 kV Miguel-Tijuana Transmission after proposed project. Figure M-2P
- 3 Existing SDG&E 230 kV Miguel-Tijuana Transmission parallel to Border-Miguel 69 kV Wood pole line with 12.5 kV underbuild. Figure M-3E
- 4 SDG&E 230 kV Miguel-Tijuana Transmission after proposed project parallel to Border-Miguel 69 kV Wood pole line with underbuild. Figure M-3P
- 5 Existing SDG&E 230 kV Miguel-Tijuana Transmission parallel to Border-Miguel 69 kV Wood pole line without underbuild. Figure M-4E
- 6 SDG&E 230 kV Miguel-Tijuana Transmission after proposed project parallel to Border-Miguel 69 kV Wood pole line without underbuild. Figure M-4P

TABLE 4.2-2**ESTIMATED ELECTRIC AND MAGNETIC FIELD VALUES (kV/m) AT
SELECTED LOCATIONS**

Approximate Milepost¹	Reference Location²	Existing/Proposed Field at ROW Edge³	
		Electric (kV/M) (Pre/Post)⁴	Magnetic (mG) (Pre/Post)⁴
MP-0.8	Kuebler Ranch	0.06/0.16	3.97/5.56
MP-1.2	R.J. Donovan	0.19/0.15	13.66/13.43
MP-1.7	G.F. Bailey Correction Facility	0.19/0.15	13.66/13.43
MP-5.7	Eastlake Residential Development	0.15/0.18	6.00/5.90
MP-6.5	Telegraph Canyon Road	0.15/0.18	6.00/5.90
MP-7.9	Proctor Valley Road	0.15/0.18	6.00/5.90

¹ Refer to Map 3.2-1 for location of Route 1 and mileposts.

² Refer to Map 3.2-1 and Figure 3.2-1 for reference locations.

³ Listed values are for the closest right of way edge to the listed reference location (refer to Tables 4.2-2 and 4.2-4); i.e., listed values are higher than actual existing/proposed levels at the listed locations, since the listed locations are actually located some distance from the right of way edge.

⁴ Pre-Project/Post-Project.

TABLE 4.2-3
MAGNETIC FIELD VALUES (mGauss)

Milepost¹	Locations²	Existing Configuration³	Existing Magnetic Field	Proposed Configuration³	Proposed Magnetic Field	Net Increase/Decrease
MP-0.14 to MP-0.5	L ROW edge R ROW edge	1	3.97 3.97	2	5.56 5.56	+1.59 +1.59
MP-0.5 to MP-1.6	L ROW edge R ROW edge	3	13.66 4.28	4	13.43 5.32	-0.23 +1.04
MP-1.6 to MP-9.2	L ROW edge R ROW edge	5	6.00 3.85	6	5.90 5.76	-0.01 +1.91

¹ Refer to Map 3.2-1 for milepost locations.

² L ROW edge = left right of way edge; R ROW edge = right of way edge.

³ Configurations:

- 1 Existing SDG&E 230 kV Miguel-Tijuana Transmission.
- 2 SDG&E 230 kV Miguel-Tijuana Transmission after proposed project.
- 3 Existing SDG&E 230 kV Miguel-Tijuana Transmission parallel to Border-Miguel 69 kV Wood pole line with underbuild.
- 4 SDG&E 230 kV Miguel-Tijuana Transmission after proposed project parallel to Border-Miguel 69 kV Wood pole line with underbuild.
- 5 Existing SDG&E 230 kV Miguel-Tijuana Transmission parallel to Border-Miguel 69 kV Wood pole line without underbuild.
- 6 SDG&E 230 kV Miguel-Tijuana Transmission after proposed project parallel to Border-Miguel 69 kV Wood pole line without underbuild.

b. Aviation Safety

The Federal Aviation Administration (FAA) requires notification of any construction taller than 200 feet or any construction within restricted airspace in the approach to airports. An FAA notice is not required for the transmission line because it is less than 200 feet³⁰ and does not cross the flight path of any aircraft.³¹ Applicant has already filed an FAA notice with respect to the project's stacks and other prominent features. (Ex. 64, p. 63; Ex. 1, § 4.2.2.) Applicant will comply with all FAA requirements for lighting, markers, and other safety measures for all project components. Therefore, the evidentiary record indicates that the transmission line will not pose a significant hazard to area aviation. (*Ibid.*)

c. Interference With Radio-Frequency Communication

Federal Communications Commission (FCC) regulations prohibit operation of devices that interfere with radio communications even if such devices are not intentionally designed to produce radio-frequency energy. Transmission line operation could interfere with radio and television reception due to corona discharge on the surface of energized conductors. (Ex. 64, p. 57.) SDG&E's facilities already comply with FCC regulations that require operators of unintentional radio frequency sources to implement necessary mitigation on a case-by-case basis. (Ex. 1, § 4.2.3.2.3.) Condition **TLSN-2** ensures that OMGP will mitigate any interference-related complaints on a case-specific basis. Applicant will use low-corona conductors and implement a maintenance program to minimize potential for any radio/tv interference. (*Id.* at § 4.2.3.2) Condition

³⁰ Reconductoring will not affect the height of the transmission line towers; furthermore, aviation-related flashing red lights have previously been installed on the existing towers. (Ex. 1; § 4.2.2.)

³¹ Airports closest to the site include the Brown Field Municipal Airport, about 2 miles to the west and the Tijuana International Airport, about 3.5 miles to the southwest. (Ex. 1, § 4.1.3.) The transmission line is located farther away from the airports as it travels northwest to the Miguel Substation. (*Id.* at § 4.2.2.)

TLSN-1 ensures compliance with CPUC General Order (GO) 52, which is intended to prevent radio/tv interference.

d. Audible Noise

Energized electric transmission lines can generate audible noise from corona discharge, most often perceived as a buzz or a hum. (Ex 1., § 4.2.3.1.) Noise levels become noticeable during humid or rainy weather when the conductors are wet. (*Ibid.*) As with radio interference, use of low-corona conductors will minimize potential for audible noise. Applicant does not expect noise from the transmission lines to add significantly to existing ambient noise levels. Staff agrees with Applicant's assessment. (Ex. 64, p. 63.) See, the **Noise** section in this Decision.

e. Fire Hazards

Operation of the transmission line represents a low fire risk. Fires could occur by sparks from overhead conductors coming into contact with combustible material. Applicant will comply with CPUC GO-95 that requires maintaining the clearance necessary to prevent fires caused by contact with combustible material. (Ex. 64, p. 63.) Condition **TLSN-4** ensures that the transmission line right-of-way will be kept free of combustible material.

f. Nuisance and Hazardous Shocks

Nuisance or hazardous shocks can result from direct or indirect contact with an energized line or metal objects located near the line. (Ex. 1, § 4.2.5.) The project-specific section of the line and the Miguel-Tijuana modification will comply with CPUC GO-95, which requires the grounding of metal objects in or adjacent to the right-of-way and adequate ground clearance of the line to minimize

potential for electric charging.³² (Ex. 64, p 64.) Condition **TLSN-1** ensures compliance with the applicable LORS.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The OMGP will interconnect to SDG&E's existing Miguel-Tijuana 230 kV transmission line via two new 0.1-mile 230 kV outlet lines from the project switchyard.
2. The project owner will reconductor about 9.05 miles of the Miguel-Tijuana line from the point of interconnection to the Miguel Substation.
3. The estimated electric and magnetic field (EMF) exposures from the transmission line are similar to those of existing SDG&E lines with the same voltage and current-carrying capacity in conformance with California Public Utilities Commission (CPUC) policy.
4. The Conditions of Certification ensure that the transmission line will not result in significant adverse environmental impacts to public health and safety nor cause impacts in the areas of aviation safety, radio/tv communication interference, audible noise, fire hazards, nuisance or hazardous shocks, or electric and magnetic field exposure.

The Commission, therefore, concludes that with implementation of the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards relating to transmission line safety and nuisance as identified in the pertinent portions of **APPENDIX A** of this Decision.

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall ensure that construction of the parallel 0.1-mile outlet lines and related switchyard, and modification of the 9.05-mile Miguel-Tijuana section, will comply with CPUC's GO-95, GO-52, Title 8, Section 2700 et seq. of the California Code of Regulations where applicable. Such construction shall also be made to ensure compliance with SDG&E's EMF-reduction guidelines arising from CPUC Decision 93-11-013.

³² Since the project will increase line current, metal fences along the right-of-way will be grounded as part of the construction phase in accordance with SDG&E practice. (Ex. 1, § 4.2.5.3.)

Verification: At least 30 days before the start of transmission line construction, the project owner shall submit to the Commission's Compliance Project Manager (CPM) evidence of its intention to comply with the above requirements.

TLSN-2 The project owner shall ensure that every reasonable effort will be made to identify and correct, on a case-specific basis, any complaints of interference with radio or television signals caused by operation of the project-related line and associated switchyards.

Protocol: The project owner shall ensure that written records are maintained for a period of 5 years, of all complaints of radio or television interference attributable to operation together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action, or for which there was no resolution should be noted and explained. The record shall be signed by the project owner and also the complainant, if possible, to indicate concurrence with the corrective action or agreement, with the justification for a lack of action.

Verification: The project owner shall ensure that all reports of line-related complaints are summarized and included in the Annual Compliance Report to the CPM, during the first 5 years of line operation.

TLSN-3 The project owner shall ensure that a qualified professional is engaged to measure the strengths of the transmission line's electric and magnetic fields before and after the line is energized. Measurements shall be made at the same points along the route of the Miguel-Tijuana section for which field strength values were presented by the applicant for project certification. Measurements shall also be made at representative points within the right-of-way along the 0.1-mile route of the new, project-specific section. These points shall represent the points of maximum field strengths within and at the edge of the right-of-way.

Verification: The project owner shall ensure that copies of the pre-and post-energization measurements are filed with the CPM within 90 days after energization.

TLSN-4 The project owner shall ensure that the right-of-way is kept free of combustible material, as required under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.

Verification: During the first 5 years of line operation, the project owner shall provide to the CPM in the Annual Compliance Report, a summary of inspection results and any fire prevention activities carried out along the right-of-way.

TLSN-5 The project owner shall ensure that all permanent metallic objects within the right-of-way are grounded in accordance with industry standards, regardless of ownership. The grounding of such objects, which include fences, gates, and other large metallic objects, shall be according to procedures specified in the National Electrical Safety Code.

Protocol: In the event of a refusal by any property owner to permit such grounding, the project owner shall notify the CPM. Such notification shall include, when possible, the property owner's written objection. Upon receipt of such notice, the CPM may waive the requirement for grounding the object involved.

Verification: At least 30 days before the line is energized, the project owner shall transmit to the CPM a letter confirming compliance with this condition.

VI. PUBLIC HEALTH AND SAFETY ASSESSMENT

Operation of the Otay Mesa Generating Plant will create combustion products and utilize certain hazardous materials that could expose the general public and workers at the facility to potential health effects. The following sections describe the regulatory programs, standards, protocols, and analyses that address these issues.

A. AIR QUALITY

This section examines the potential adverse impacts of criteria air pollutant emissions resulting from project construction and operation. The Commission must find that the project complies with all applicable laws, ordinances, regulations, and standards related to air quality. National ambient air quality standards (NAAQS) have been established for six air contaminants identified as criteria air pollutants. These include sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), lead (Pb), and particulate matter less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}) and their precursors: nitrogen oxides (NO_x), volatile organic compounds (VOC), and SO_x. (Ex. 1, / 5.2.1.3.)

The federal Clean Air Act³³ requires new major stationary sources of air pollution to comply with federal requirements in order to obtain authority to construct permits. The U.S. Environmental Protection Agency (USEPA), which administers the Clean Air Act, has designated all areas of the United States as attainment (air quality better than the NAAQS) or non-attainment (worse than the NAAQS) for criteria air pollutants. (Ex. 1, / 5.2.1.3.) There are two major components of air pollution law: New Source Review (NSR) for evaluating pollutants that violate federal standards and Prevention of Significant Deterioration (PSD) to evaluate

³³ Title 42, United States Code, section 7401 et seq.

those pollutants that do not violate federal standards. Enforcement of NSR and PSD rules is typically delegated to local Air Districts that are established by federal and state law. (*Ibid.*)

Both USEPA and the California Air Resources Board (CARB) have established allowable maximum ambient concentrations for the six criteria pollutants listed above. The California standards (CAAQS) are typically more stringent than federal standards. Federal and state ambient air quality standards are shown in Air Quality Table 1.

AIR QUALITY Table 1
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone (O ₃)	1 Hour	0.12 ppm (235 µg/m ³)	0.09 ppm (180 µg/m ³)
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)
	1 Hour	35 ppm (40 mg/m ³)	20 ppm (23 mg/m ³)
Nitrogen Dioxide (NO ₂)	Annual Average	0.053 ppm (100 µg/m ³)	---
	1 Hour	---	0.25 ppm (470 µg/m ³)
Sulfur Dioxide (SO ₂)	Annual Average	80 µg/m ³ (0.03 ppm)	---
	24 Hour	365 µg/m ³ (0.14 ppm)	0.04 ppm (105 µg/m ³)
	3 Hour	1300 µg/m ³ (0.5 ppm)	---
	1 Hour	---	0.25 ppm (655 µg/m ³)
Respirable Particulate Matter (PM ₁₀)	Annual Geometric Mean	---	30 µg/m ³
	24 Hour	150 µg/m ³	50 µg/m ³
	Annual Arithmetic Mean	50 µg/m ³	---
Sulfates (SO ₄)	24 Hour	---	25 µg/m ³
Lead	30 Day Average	---	1.5 µg/m ³
	Calendar Quarter	1.5 µg/m ³	---
Hydrogen Sulfide (H ₂ S)	1 Hour	---	0.03 ppm (42 µg/m ³)
Vinyl Chloride (chloroethene)	24 Hour	---	0.010 ppm (26 µg/m ³)
Visibility Reducing Particulates	1 Observation	---	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

SUMMARY OF THE EVIDENCE

The project site is located within the San Diego County Air Pollution Control District (SDCAPCD or Air District), which is designated attainment for the state s CO, NO₂, SO₂, SO₄, and lead standards and the federal SO₂ standard, and unclassified/attainment for the federal PM₁₀ and CO standards. The San Diego area is non-attainment for the federal and state 1-hour ozone standards and the state PM₁₀ standard.

The EPA, SDCAPCD, and CARB worked together with Energy Commission staff to determine whether the project s emissions would cause significant air quality impacts and to identify appropriate mitigation measures to reduce potential impacts to levels of insignificance. (11/18 RT 143-146.)

1. SDCAPCD s Final Determination of Compliance

On September 18, 2000, SDCAPCD released its Final Determination of Compliance (FDOC). The FDOC concludes that OMGP will comply with all applicable air quality requirements, and imposes certain conditions necessary to ensure compliance.³⁴ (Ex. 93) Pursuant to Commission regulations, the conditions contained in the FDOC are incorporated into this Decision. (Cal. Code of Regs., tit. 20, // 1744.5, 1752.3.) The Air District witness Mr. Carbonell, who prepared the FDOC, testified that the project would comply with SDCAPCD s requirements and with state and federal regulations. (11/21/00 RT 104-105.)

³⁴ Title V of the Clean Air Act requires the states to implement an operating permit program to ensure that large sources comply with federal regulations. The USEPA has delegated to SDCAPCD the authority to implement the federal PSD, nonattainment NSR, and Title V programs. SDCAPCD adopted regulations, approved by USEPA, to implement these programs. OMGP is subject to SDCAPCD rules and regulations, in particular Regulation 20.3 (NSR), which defines requirements for Best Available Control Technology (BACT), offsets, and emission calculation procedures.

Applicant has filed an application for an Authority to Construct permit. (Exs. 2, 21.)

2. California Environmental Quality Act (CEQA) Requirements

The Commission not only reviews compliance with Air District rules but also evaluates potential air quality impacts according to CEQA requirements. The CEQA Guidelines provide a set of significance criteria to determine whether a project will:

(1) conflict with or obstruct implementation of the applicable air quality plan; (2) violate any air quality standard or contribute substantially to an existing or projected air quality violation; (3) result in a cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment for state or federal standards; (4) expose sensitive receptors to substantial pollutant concentrations; and (5) create objectionable odors affecting a substantial number of people. (Cal. Code Regs., tit. 14, /15000 et seq., Appendix G.)

Staff's witness, Mr. Layton, testified that although the San Diego air basin is attainment for the federal PM₁₀ standard, it is nonattainment for the state standard. (11/21/00 RT 36-37.) The Air District does not require offsets for state PM₁₀ violations. Under CEQA, however, Staff proposed additional PM₁₀ mitigation, which is identified below. The following discussion provides an overview of air quality in the San Diego area and describes the conclusions reached by SDCAPCD and Staff.

3. Ambient Air Quality

To obtain representative ambient air quality data, the Air District relied on five air monitoring stations in the project area: Chula Vista and San Diego stations, which are 12 and 15 miles northwest of the site; Otay Mesa about 1 mile south; El Cajon, 15 miles north; and Alpine to the west. (Ex. 65, p. 13.)

Ozone Violations. Ozone is not directly emitted from stationary or mobile sources, but is formed as the result of chemical reactions in the atmosphere between directly emitted air pollutants. Nitrogen oxides (NO_x) and hydrocarbons (Volatile Organic Compounds [VOCs]) interact in the presence of sunlight to form ozone. Data provided by the Air District indicate that consistent violations of state ozone standards occur in the San Diego area. (Ex. 65, pp. 12-13.)

The South Coast Air Basin and Mexico contribute measurably to ozone violations in the San Diego air basin, a downwind district. This widespread contribution from one geographic area to another demonstrates the regional nature of the ozone problem and ozone formation. (Ex. 65, p. 13.)

Ambient NO₂. While the San Diego region is attainment for the state and federal 1-hour and annual NO₂ standards, NO₂ is still a concern as a precursor pollutant of ozone and PM₁₀. Ambient NO₂ is generally the result of fossil fuel combustion, which can create a localized spike of NO₂ levels compared to regional levels. This is demonstrated by the high NO₂ values reported at the Otay Mesa air monitoring station located at the Paseo International border truck crossing. (Ex. 65, p. 14.)

Ambient Carbon Monoxide. The San Diego region is attainment for state and federal CO standards. CO is generally the result of fossil fuel combustion, which can create localized spikes of CO levels compared to regional levels. This is also demonstrated by the high CO values reported at the Otay Mesa and the San Diego monitoring stations located in vehicle dense settings. (Ex. 65, p. 15.)

Ambient PM₁₀. PM₁₀ can be emitted directly or formed downwind from emission sources when various precursor pollutants interact in the atmosphere. Gaseous emissions of pollutants like NO_x, SO_x, and VOC from turbines, and NH₃ (from NO_x control equipment) can form particulate matter such as nitrates (NO₃), sulfates (SO₄), and organics. These pollutants are secondary

particulates because they are not directly emitted but are formed through complex chemical reactions in the atmosphere. (Ex. 65, p. 15.)

The magnitude and frequency of the PM10 measurements at the Otay Mesa monitor indicates that the area has a local PM10 problem related to the proximity of the Paseo International border crossing. Area traffic volume is expected to increase in the next 10 to 15 years as an additional border crossing will be built to the east of the existing Paseo border crossing. (Ex. 65, p. 16.)

Ambient SO₂. The San Diego region is attainment for state and federal SO₂ standards. Ambient SO₂ is generally the result of combustion of fossil fuel and in particular, fuel oil. San Diego is a large port for the US Navy, which continues to use fuel oil and distillate in its ships. Additionally, the South Bay and Encina power plants can use fuel oil under *force majeure* conditions during natural gas curtailments. Since SO₂ is a precursor to PM10, its relative contribution to PM10 will continue. (Ex. 65, pp. 16-17.)

4. Potential Impacts

Methodology. Applicant used USEPA-approved air dispersion modeling to calculate the worst case turbine configuration that would result in the highest emission impacts.³⁵ These results were included in a more refined modeling analysis using meteorological and ambient air data provided by the Air District. (Ex. 1, / 5.2.3 et seq., Tables 5.2-15, 5.2-16, 5.2-17; Ex. 3; Ex. 21; Ex. 65, p. 29.) These calculations describe project emissions prior to installation of control technology.

³⁵ The SDAPCD has specific rules for sources such as the OMGP that have the potential to emit criteria pollutants in amounts in excess of specified levels. Potential to emit is the emission rate resulting from operation, when the effect of control measures and enforceable limits such as hours of operation are considered. The potential to emit for OMGP was based on worst-case emissions information provided by the potential gas turbine vendors for the Asea Brown Bovari (ABB GT24), General Electric (GE 7 FA), or Siemens-Westinghouse (SW 501 FD). (Ex. 1, p. 5.2-11 and Appendix I.)

Construction. The primary emission sources during construction will be diesel exhaust from heavy equipment and fugitive dust from disturbed areas at the site. (Ex. 1,/5.2.3.1.1, Tables 5.2-8 and 5.2-9.) Applicant s modeling results indicate that maximum concentrations of construction-related emissions (PM10, CO, and NOx) will occur at the property boundary. Under worst-case conditions these emissions would cause violations of the 1-hour NO2 standard, the 8-hour CO standard and the state and federal 24-hour and annual PM10 standards. (Ex. 65, p. 26.) However, these are temporary impacts that will occur in an isolated area away from population centers. (*Ibid.*) Although the Air District does not typically regulate temporary construction impacts, Staff proposed mitigation measures including fugitive dust control and installation of oxidizing soot filters. These measures are included in Conditions **AQ-70** through **AQ-74**.

Commissioning. Initial commissioning operations of the power plant starts with the first firing of fuel in the gas turbines and HRSGs to test equipment and emission control systems. During this testing period, which lasts a few months, the project will operate without post-combustion catalysts while the combustion turbine is optimized. (Ex. 65, p. 30.) Condition **AQ-10** requires the project owner to install a portable Continuous Emission Monitoring System (CEMS) prior to initial firing of each turbine. The portable CEMS will remain in full operation at all times when the turbine is operating until the permanent CEMS is installed.

Commercial Operation. Applicant s modeling analysis assumed worst-case ambient temperatures during steady state operation to predict the highest impacts.³⁶ (Ex. 1,/5.2.3.2.1.) The results showed that pollutant concentrations during operation would be highest in the terrain east of the site. (Ex. 65, p. 31.)

³⁶ Early morning air pollution known as fumigation occurs before sunrise when the air is stable. Emissions from elevated stacks rise through the stable air layer and may be mixed with heated ground air as the temperature gets warmer, resulting in a vertical mixing of air and bringing some emissions back to ground level. (Ex. 1,/5.2.3.2.4.) The modeling predicted that fumigation impacts are below maximum worst-case turbine screening models, showing that fumigation is not a controlling scenario. (*Ibid.*)

Modeling results show the project's direct PM₁₀ impacts could contribute to existing violations of the state 24-hour and annual PM₁₀ standards, which, according to Staff, could be significant if left unmitigated. High emissions of NO_x and CO during start-up can occur when emission control is not operating at optimum temperatures. Thus, the two combustion turbines will not be started simultaneously, but sequentially. (*Ibid.*)

The project's NO_x, SO₂, and VOC emissions can result in formation of secondary pollutants, ozone and PM₁₀, which would contribute to higher ozone and PM₁₀ levels in the region. A summary of the modeling results is shown in the following table, replicated from Staff's **Air Quality Table 14**. (Ex. 65, p. 29.)

Air Quality Table 14
Combustion Turbine Refined Modeling Maximum Impacts

Pollutant	Averaging Time	Impact (µg/m ³) ^a	Back-Ground (µg/m ³) ^d	Total Impact (µg/m ³)	Limiting Standard (µg/m ³)	Percent of Standard
NO ₂	1-hour	130 ^b	205	335	470	71
	Annual	0.8 ^e	37.6	38.4	100	38
CO	8-hour	643.2	4,413	5056	10,000	51
PM ₁₀	24-hour	4.6	103	107.6	50	215
	Annual ^c	0.8	29.2	30.0	30	100
<p>a. The worst-case impacts from Staff's Air Quality Table 12.</p> <p>b. Using the ozone limiting method.</p> <p>c. Annual Arithmetic mean.</p> <p>d. Background PM₁₀, NO₂, and CO data was collected between 1994 and 1999 at the Chula Vista ambient air monitoring station.</p> <p>e. Using the ARM default value of 0.75.</p>						

(Source: Ex. 65, p. 29.)

Cumulative Impacts. To evaluate reasonably foreseeable impacts as part of the air quality analysis, Applicant performed a screening analysis for cumulative impacts, which included potential and/or permitted projects up to 9 miles from the site. (Ex. 65, p. 30.) Based on information provided by the Air District, no such

projects were identified and therefore no additional analysis or modeling was conducted. With respect to air quality impacts across the Mexican border, evidence indicated that maximum impacts from the project would occur east of the site and project emissions to the south at the border would be insignificant. (*Id.* at p. 31.)

Air District Rule 69. The Committee directed Staff to conduct a cumulative impacts analysis of assertions by Intervenor Cabrillo and DENA that potential impacts to regional air quality may result from fuel oil burns due to gas curtailments at the Encina and South Bay power plants caused by gas deliveries to OMGP.

Staff reviewed Air District Rule 69 that governs fuel oil burns by the Encina and South Bay plants. Rule 69 was developed when SDG&E owned these units and could, to some extent, control gas curtailment by controlling generation output so that fuel oil burns would occur only occasionally, if at all. After the units were sold, the District imposed new emission rates, effective January 1, 2001, which limit NO_x emissions from any EG steam boiler to 0.15 pounds per MW hour when burning natural gas, 0.40 pounds per MW hour when burning fuel oil, and a prorated emissions limit when burning a combination of gas and oil. (District Rule 69(d)(7); Ex. 64, Appendix B.) The units are presently operating under variances that provide relief from the implementation date while the new owners install SCR or other NO_x control equipment over the next 2 to 3 years to comply with Rule 69. Until such time, the units are operating at almost 10 times higher NO_x emission rates than the Rule 69 limits for both gas and fuel oil. (*Ibid.*; Exs. 86, 95; 11/21/00 RT 115-118.)

Staff indicated that switching from natural gas to fuel oil results in tremendous increases in NO_x, SO₂, and PM₁₀ emissions. (Ex. 64, Appendix B.) However, Staff conducted further analysis based on data provided by the Air District and determined that fuel oil burning would not cause violations of the NO₂ standard

although the switch of 0.5% fuel oil appeared to cause a violation of the state 24-hour SO₂ standard. (Ex. 103, p. 2.) Staff believes that these modeling results may be worse than the actual case after implementation of NO_x controls by the owners of Encina and South Bay since SCR requires increased maintenance with increasing sulfur content, making it less cost effective to burn high sulfur fuels. (Ex. 103, p. 3.) Further, Staff believes that SO₂ levels will continue to improve in the region and statewide as sulfur is removed from diesel fuel. Staff could not determine that the use of fuel oil would cause significant impacts due to uncertainty about the duration, frequency, or seasonality of the fuel oil firing and the resultant emission rate changes.³⁷ (*Ibid.*; 11/21/00 RT 63-68.)

Staff reviewed its entire analysis regarding potential impacts of OMGP on gas supply in the region and concluded that the nexus between OMGP's demand for gas and the burning of fuel oil by Encina and South Bay is too speculative to warrant CEQA review. (Ex. 64, Appendix B; Ex. 103, Ex. 105: response to question 4.)

Intervenor Cabrillo disagreed with Staff's analysis. Cabrillo's witness, Mr. Rubenstein, testified that a 10% gas curtailment (and consequent fuel oil burn) would increase emissions by an amount comparable to, or greater than the total emissions from the [OMGP], but without compensating mitigation. (Ex. 82, p. 2.) Mr. Rubenstein believes this would constitute a significant, unmitigated air quality impact in the same manner, and for the same reasons, as construction and operation of the [OMGP] without mitigation, would constitute a significant, unmitigated air quality impact. (*Ibid.*)

³⁷ In the CPUC proceeding on natural gas constraints (CPUC OII I.00-11-002), the Air District has actively expressed its concerns that gas curtailments in the San Diego region will have significant consequences for air quality and public health if the Encina and South Bay plants continue to burn fuel oil instead of gas. (Exs. 84, 94, and 102; Letter dated February 15, 2001 from R. J. Sommerville, APCO to Judge Carol Brown, CPUC.)

Rule 69 prohibits economic fuel oil burns after January 1, 2001, limiting future oil burns to *force majeure* events such as natural disasters or RMR calls or other circumstances to be determined by the Air District. (11/21/00 RT 108, 117-122.) DENA argued that the competitive market should determine when Encina and South Bay will increase generation, i. e., high prices indicate a need for additional resources. The addition of OMGP would displace imports, resulting in the need for more generation using limited gas supply and resulting in fuel oil burns in response to RMR calls. (Ex. 111: declaration of Randall Hickok; DENA's Opening Brief at pp. 32-33.)

Applicant argues there is no evidence that OMGP would cause additional gas curtailments; to the contrary, the project's more efficient turbines would use less gas to produce more electricity. (Ex. 81.) Further, Applicant contends that there are too many indeterminate variables to ascertain whether such curtailments would result in significant air quality impacts, including: i) the *force majeure* limits on fuel burning; ii) the environmental significance of such burns; iii) the level of future operation of Encina and South Bay; iv) the implications of future retrofits or replacement units (DENA is required to replace all its units by 2009); and, v) the implications of future amendments to Rule 69. (Applicant's Opening Brief: response to question 5.)

5. Mitigation

BACT/LAER. The USEPA requires installation of emission control systems that comply with Best Available Control Technology (BACT) or the Lowest Achievable Emission Rate (LAER) for facilities that emit criteria pollutants.³⁸ (Ex. 1, /5.2.2.) In this case, the OMGP will limit NO_x emissions during project operation to 2.0 ppmvd (at 15% O₂) over a 3-hour rolling average under steady state conditions.

³⁸ For facilities that emit non-attainment pollutants, USEPA requires LAER, which is even more stringent than federal BACT. In California, however, state BACT is equivalent to federal LAER limits. (Ex. 1, /5.2.2.1.)

(*Id.*, p. 5.2-16; Ex. 93; Ex. 65, p. 36.) In addition, VOC concentrations are limited to less than 2.0 ppm (at 15% O₂) over a 1-hour average and CO concentrations to less than 6.0 ppm (at 15% O₂) over a 3-hour average. Applicant will achieve these limits by installing either the newly developed SCONOX technology or Dry Low NO_x and Selective Catalytic Reduction (SCR) systems.

Typically, modern gas-fired power plants employ SCR, which uses ammonia (NH₃) for NO_x reduction to achieve BACT/LAER. Newer technologies such as XONON or SCONOX can reduce NO_x and CO emissions without the use of ammonia or oxidation catalyst. (Ex. 1, /5.2.2.3.) The USEPA currently requires consideration of alternative technologies in the BACT analysis. (*Ibid.*)

Applicant believes SCONOX is a feasible alternative to SCR. (Ex. 1, /5.2.2.3.2.) However, SCONOX has only been demonstrated on smaller, aeroderivative turbines and will require significant scale-up for application to the large F-type turbines for the OMGP. (*Ibid.*; see also, Ex. 8.) According to Applicant, the SCONOX system promises significant environmental benefits, if it can be scaled-up, with a target NO_x emission concentration of 1.0 ppmvd (at 15% O₂) on a 24-hour average. (*Ibid.*) Condition **AQ-27** provides a 6-month optimization period for the SCONOX system during which the project owner will undertake reasonable efforts to achieve a NO_x emission level of 1.0 ppmvd (at 15% O₂). Condition **AQ-59** requires the project owner to achieve a NO_x emission level of 1.0 ppmvd (at 15% O₂) within 20 years after start-up no matter which emission control system is employed.

In the event that SCONOX technology is not available, Applicant proposes the industry standard SCR, which chemically reduces NO_x by injecting ammonia (NH₃) over a catalyst in the presence of oxygen. (Condition **AQ-36.**) If the temperature is too low, NH₃ emissions will increase, resulting in ammonia slip to the environment. The Air District limits ammonia slip to 10 ppmvd (at 15% O₂). (Condition **AQ-34.**) Applicant will install an oxidation catalyst and Low Dry NO_x

combustors with the SCR system to control CO and VOC emissions. (Ex. 1, // 5.2.2.3.4 and 5.2.2.4.2.)

ERCs. Emission reduction credits (ERCs or offsets) are created when existing permitted emission sources cease or reduce their operations below permitted levels. The ERCs are approved and banked by the Air District. In this case, ERCs are required for NO_x, PM₁₀, and PM₁₀ precursors, NO_x, SO_x, and VOC to ensure that the project will not interfere with the District's overall attainment strategy. (Ex. 65, p. 37.)

Applicant proposed an enforceable emission limit of 100 tons per year for NO_x. Applying the Air District's 1.2 to 1 offset ratio requires 120 tons of NO_x offsets. (Ex. 4, / 5.2.4.) VOC offsets are provided at the offset ratio of 2.4 to 1 (interpollutant trading ratio of 2:1 and offset ratio of 1.2:1.) Applicant has obtained offsets from the following sources:

- Purchases of NO_x offsets from the market;
- Purchases of VOC offsets for NO_x at the interpollutant trading offset ratio at a 2:1 ratio in accordance with SDAPCD Rule 20.3 (NSR); and
- Mobile emission reduction credits (MERCs). (*Ibid.*)

Copies of Applicant's ERC certificates are included in the evidentiary record. (Exs. 10 and 28.) The following Table 17 replicated from Staff's testimony provides a summary of the ERCs, which have been approved by the Air District and included in Condition **AQ-55**.

Air Quality Table 17
OMGP NOx and VOC Offsets (tons per year)

Offset source	NOx	VOC
ERCs		
US Foam		30.2
US Foam	1.3	
National Offset	4.4	
Alcoa	1.21	
Napp Systems		17.05
Solar Turbines		25
Designz Unlimited		10.3
American Fashion	0.7	
City of San Diego	2.71	
MERCs		
San Diego Harbor Excursion: diesel to diesel	29.96	
Western Maritime: diesel to diesel conversion	8.37	
Waste Management, Inc. fleet conversion: diesel to natural gas engines	35.25	
ERCs: NOx and VOC	83.90	82.55
@ Interpollutant Trading Ratio 2 VOC _{ERC} to 1 NOx _{ERC} ^a		41.28
TOTAL ERCs: NOx and NOx equivalent	125.18	
a. Per District rules.		

Source: Ex. 65, p. 35

MERCs. Applicant s proposal to use mobile offsets is the first time in California that this approach has been successfully accomplished. The offset market for NOx credits in the San Diego region is very limited. (Ex. 64, p. 34.) Air District Rule 27 provides for the banking of MERCs and the development of an alternative program for creating mobile source emission reduction credits for surplus (in excess of regulatory requirements) NOx offsets. (Ex. 45, p. S-1.) This alternative program requires approval of the Air District s Air Pollution Control Officer (APCO), with concurrence from CARB. The resulting MERCs may only be used as NOx offsets to satisfy federal emission offset requirements in District Rule 20.3 (NSR). (*Ibid.*)

The Air District's alternative program for MERCs was designed in consultation with USEPA and CARB. It includes detailed technical procedures and imposes substantial requirements on fleet owners and users of the credits to ensure the emission reductions are real, quantifiable, enforceable, surplus, and permanent pursuant to USEPA, CARB, and Air District requirements. All of these procedures and requirements were evaluated in the District's Draft EIR on the alternative program, which was published in July 2000 and adopted in August 2000. (Ex. 45.) The District adopted the Alternative Mobile Source Emission Reduction Program for Replacing Heavy and Medium Heavy-Duty Diesel Powered Vehicles and Repowering of Marine Vessels Under Rule 27 (c)(1)(vi) on September 8, 2000, incorporating Applicant's proposal. (Ex. 57.) Conditions **AQ-56** through **AQ-58** ensure that Applicant will comply with the District's Alternative MERC Program.

As a result of the MERC program, Applicant will repower a fleet of four marine vessels owned by the San Diego Harbor Excursion Company (Harbor Excursion) with new, lower emitting diesel engines. Harbor Excursion will in turn apply to the Air District for MERCs resulting from the conversion of the existing engines to the replacement engines (Fleet Conversion Project). The MERCs will be banked with the District and sold to Applicant under an exclusive option agreement with Harbor Excursion. (Ex. 12, pp. 1-2.) Applicant also proposes to convert a fleet of vessel assist boats owned by Western Maritime with the same MERC banking arrangement. A second set of MERCs involves the conversion of a refuse collection diesel truck fleet to natural gas engines optioned by Waste Management, Inc. (Ex. 65, pp. 34-35; Ex. 93: FDOC, pp. 28-29.) Since natural gas engines are not certified by CARB or USEPA to a PM10 or VOC performance standard, Applicant has not proposed to bank these credits; rather, the reductions will be applied as mitigation for project PM10 and PM10 precursor emissions. (Ex. 65 p. 35.)

The Air District plans to submit a portion of the alternative program to USEPA for inclusion in the State Implementation Plan (SIP). Upon USEPA approval, this portion of the alternative program would become federally enforceable. (Ex. 93, p. 28.)

CEQA Mitigation Plan for PM10. Staff is concerned that the project's PM10 and PM10 precursor emissions of PM10, SO2, and VOC would contribute to existing violations of the state 24-hour and annual PM10 standards.³⁹ Under CEQA, only 100 tons of NOx reductions are required to mitigate the 100-ton permitted NOx increase. Staff pursued additional mitigation to address the impacts of secondary PM10 emissions. (Ex. 65, pp. 37-42; see also, Ex. 88.) Since PM10 offsets are very limited in the San Diego region, Applicant agreed to provide a mitigation fee of \$1.2 million to the Air District. These funds would go to the Lower Emission School Bus-Retrofit Program or to the Carl Moyer Program to reduce diesel fuel emissions from school buses in the project vicinity. (11/21/00 34-36.) Condition **AQ-75** ensures that the project owner will implement this mitigation plan.

Representatives from the Environmental Health Coalition and the American Lung Association presented public comment on the mitigation plan. While they support the plan, they want an opportunity to provide public input to ensure local distribution of the funds. Further, these organizations request the Commission to increase the funding to \$1.7 million, which was the amount initially proposed by Staff. (11/21/00 RT 229-235.)

PSD Permit. The Air District issued its Prevention of Significant Deterioration (PSD) permit for OMGP on December 15, 2000, finding that the project meets all PSD requirements of District Rule 20.3 and federal law. (Ex. 114.)

³⁹ The project does not trigger PM10 offset requirements under the Air District's rules, which are designed for attainment of the federal standard for NSR. (11/21/00 RT 38-39.) Staff considers the project's contribution to existing violations of the state standard to be significant. (*Ibid.*)

COMMISSION DISCUSSION

Will OMGP cause additional gas curtailments resulting in fuel oil burns that would adversely impact regional air quality? Cabrillo's witness, Mr. Rubenstein evaluated the impacts of the actual fuel oil burning that occurred on November 14, 2000 (the second day of evidentiary hearings) and found that the emissions were covered by permits held by Encina and South Bay. (11/21/00 RT 139-141, 155.) The Air District confirmed that the emissions during the fuel oil burns did not cause any air quality violations. (*Id.* at p. 193:1-4.) These emissions occurred before OMGP was approved. The totality of the evidence regarding OMGP indicates that the greater efficiency of the project would more likely reduce gas curtailment events than cause them to occur. Moreover, the speculative nature of anticipating gas curtailments to Encina and South Bay after 2003 cannot support a finding that operation of OMGP will be the proximate cause of those curtailments.

Regarding the likelihood of future gas curtailments and *force majeure* oil burns, Mr. Rubenstein testified that he could not predict whether a curtailment is going to occur or not. (*Id.* at p. 153:4-7.) Even if Mr. Rubenstein's worst-case analysis regarding potential air quality impacts of fuel oil burns prove to be accurate, there is no evidence that OMGP would cause those fuel oil burns to occur. Indeed, Mr. Rubenstein's testimony reflects Staff's view that prospective air quality impacts resulting from fuel oil burns cannot be analyzed without information about the duration, frequency, and seasonality of any scenario. Evidence also indicates that the ability to burn fuel oil may be further limited under Rule 69 after the Air District more specifically defines *force majeure* events. Thus, the circumstances under which Encina and South Bay will be permitted to burn fuel oil are a matter of considerable speculation.

Under CEQA, the lead agency must discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. [Cal. Code Regs., tit. 14, / 15130(a).] Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, current projects, and probably future projects. [*Id.* at / 15065(c).] CEQA also requires the lead agency to consider the reasonably foreseeable indirect impacts that may be caused by a project. [*Id.* at / 15064(d).] An indirect impact is a physical change in the environment, which is not immediately related to the project, but which is caused indirectly by the project. [*Id.* at / 15064(d)(2).]

In the first instance, OMGP will comply with all applicable law relating to air quality as evidenced by the FDOC and the PSD permit as well as the agreement to provide a PM10 mitigation package to mitigate violations of state PM10 standards. Thus, there are no unmitigated significant adverse impacts and no evidence of cumulatively considerable impacts in connection with existing or foreseeable projects. [Cal. Code Regs., tit. 14, / 15064(l)(3).] As for indirect effects, a lead agency may terminate discussion of an impact if after a thorough investigation it finds that an alleged impact is too speculative for evaluation. (*Id.* at / 15145.) Even if we accept the notion that OMGP will cause additional gas curtailments to Encina and South Bay, which we do not, it requires further speculation to conclude that the plants would burn fuel oil during the curtailment events and that such fuel oil burns would result in potentially significant impacts on regional air quality. There was no evidence to establish that current or future fuel oil burns will violate existing permit conditions.

In the CPUC proceeding on SDG&E's gas transmission system (CPUC OII 1.00-11-002), the Air District has requested SDG&E and its current customers to develop a plan to minimize air quality impacts in the event of additional gas curtailments. This request does not implicate OMGP but rather highlights the urgency for regional planning to accommodate additional electric generation that

relies on limited natural gas distribution in San Diego. Intervenors Cabrillo and DENA indicated support for regional cooperation on this issue.

We are convinced that any nexus between OMGP and future *force majeure* fuel oil burns by Encina and South Bay is too speculative to support any finding of cumulative or indirect impacts. We therefore reject the Intervenors' assertions that OMGP would cause, either cumulatively or indirectly, fuel oil burns that adversely affect regional air quality.

With respect to the community groups' request to increase the PM10 mitigation package from \$1.2 million to \$1.7 million, the parties based this fee on typical market costs for PM10 offsets or other PM10 mitigation that would accomplish the reductions sought in this case. We do not intend to recalculate. However, we encourage Applicant to cooperate with local community organizations to enhance the mitigation package, as appropriate. We also believe that Intervenor Holly Duncan's request for tree planting should be revisited by Applicant and revised, if feasible, with a view toward alleviating some of the local concern about global warming.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. National ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) have been established for six air contaminants identified as criteria air pollutants, including sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), lead (Pb), and particulate matter less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}) and their precursors: nitrogen oxides (NO_x), volatile organic compounds (VOC), and SO_x.
2. The San Diego County Air Pollution Control District (Air District) has jurisdiction over the area where the project site is located.

3. The Air District is a non-attainment area for both the state and federal 1-hour ozone standards and the state PM₁₀ standard and attainment for all other criteria pollutants.
4. Construction and operation of the project will result in emissions of criteria pollutants and their precursors.
5. The Air District issued a Final Determination of Compliance for the OMGP that finds the project will comply with all applicable District rules.
6. The OMGP will employ the best available control technology (BACT) to limit pollutant emissions by installing either SCONOX or SCR technology.
7. Project NO_x emissions are limited to 2.0 parts per million (ppmvd) corrected at 15 percent oxygen average over a three-hour rolling average.
8. The project owner will undertake reasonable efforts to achieve a NO_x emission level of 1.0 ppmvd (at 15% O₂) during the optimization period for employment of the SCONOX system.
9. OMGP will achieve a NO_x emissions level of 1.0 ppmvd (at 15% O₂) within 20 years of operation whether or not SCONOX is employed.
10. Project ammonia slip emissions resulting from use of SCR are limited 10 ppm.
11. The project will use Mobile Emission Reduction Credits (MERCs) in accordance with Air District Rule 27.
12. To mitigate state PM₁₀ violations, the project owner will provide \$1.2 million that will be distributed by the Air District to the Lower Emission School Bus-Retrofit Program or to the Carl Moyer Program to reduce diesel fuel emissions from school buses in the project vicinity.
13. It is too speculative to conclude there is a nexus between OMGP and *force majeure* fuel oil burns anticipated by the existing Encina and South Bay power plants.
14. Applicant has secured all required offsets to fully mitigate the project in accordance with the Air District's rules on new source review (NSR).
15. The Air District has issued a Prevention of Significant Deterioration (PSD) permit for the OMGP.
16. Project emissions will not result in direct, indirect, or cumulative impacts to air quality in the project vicinity.

17. Implementation of the Conditions of Certification, below, ensures that OMGP will not result in any direct, indirect, or cumulative significant adverse impacts to air quality.

The Commission, therefore, concludes that with implementation of the Conditions of Certification, below, and the mitigation measures described in the evidentiary record, the Otay Mesa Generating Project will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portions of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

AQ-1 Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

AQ-2 This equipment shall be properly maintained and kept in good operating condition at all times.

Verification: The project owner shall make the site and records available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

AQ-3 The project owner shall provide access, facilities, utilities, and any necessary safety equipment for source testing and inspection upon request of the Air Pollution Control District.

Verification: The project owner shall make the site and records available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

AQ-4 The owner operator shall obtain any necessary District permits for all ancillary combustion equipment, including emergency engines, prior to on-site delivery of the equipment.

Verification: The project owner shall provide copies of the design details of the ancillary equipment to be installed, including emergency engines to the CPM and the District at least 90 days prior to the delivery of the equipment to the project site.

CONSTRUCTION (AT OR PRIOR TO INITIAL FIRING) CONDITIONS

AQ-5 At least 90 days prior to on-site delivery of equipment the project owner shall submit to the District the final selection and design details of the gas turbines and associated equipment to be installed, including all proposed post-combustion control systems (SCONox or SCR). Such information may be submitted to the District under Trade Secret and confidential provisions pursuant to District Rules 175 and 176.

Verification: The project owner shall provide copies of design details of the gas turbines and associated equipment to be installed, including all proposed post-combustion control systems (SCONox or SCR) to the CPM and the District at least 90 days prior to the start of rough grading.

AQ-6 The exhaust stacks for each turbine power station shall be at least 131 feet (39.9 meters) in height and shall be positioned no more than one stack diameter away from each other.

Verification: The project owner shall provide copies of the design details of the gas turbines and associated equipment to be installed, including all proposed post-combustion control systems (SCONox and SCR) to the CPM and the District at least 90 days prior to on-site delivery of equipment.

AQ-7 The exhaust stacks for each turbine power station shall be equipped with source test ports and platforms to allow for the measurement and collection of stack gas samples consistent with all approved test protocols. The ports and platforms shall be constructed in accordance with District Method 3A, Appendix Figure 2.

Verification: The project owner shall provide copies of the design details of the gas turbines and associated equipment to be installed, including all proposed post-combustion control systems (SCONox and SCR) to the CPM and the District at least 90 days prior to on-site delivery of equipment.

AQ-8 This equipment shall be fired on natural gas only. The sulfur content of the natural gas used shall not exceed 0.75 grains per 100 standard cubic feet of natural gas. The project owner shall maintain quarterly records of fuel sulfur content (grains of sulfur compounds per 100 scf of natural gas) and higher heating value (Btu/scf) and shall make these records available to District personnel upon request. Specifications, including sulfur content and higher heating value, of all natural gas, other than Public Utility Commission (PUC)-regulated natural gas, shall be submitted to the District for written approval prior to use.

Verification: These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-9 In the event the applicant elects to install the SCONOx system, the applicant shall undertake all reasonable efforts to achieve continuous NOx emissions below current BACT/LAER standards. The applicant shall submit to the District a protocol for achieving optimum operation of the SCONOx system and a NOx emission concentration of 1.0 ppmvd (at 15% oxygen, 3-hour average) for each turbine. This protocol shall include, at a minimum, the following:

- a. The initial values for the regeneration cycle times.
- b. The amount of natural gas or other source of hydrogen for the regeneration cycle (expressed as a concentration or percentage of total regeneration gas).
- c. The testing scheme to vary the cycle times and the monitoring that will be done to determine the effectiveness of the changes on emission rates of NOx and CO.
- d. The testing scheme to vary the concentrations of natural gas or other source of hydrogen for the regeneration.
- e. Additional contingency measures to be taken to address possible failure modes.

Verification: The project owner shall provide copies of the protocol for achieving optimum operation of the SCONOx system to the District and to the CPM at least 30 days prior to initial firing.

AQ-10 Prior to initial firing of each turbine, a Continuous Emission Monitoring System (CEMS) shall be installed and calibrated to measure the concentrations

of oxides of nitrogen (NO_x), carbon monoxide (CO), and oxygen (O₂) in the exhaust gas on a dry basis, corrected to 15% oxygen. Upon initial firing and prior to final approval of the permanent CEMS system, a portable CEMS, which has been properly certified and calibrated, shall be operational. At least 60 days prior to the operation of both the portable and permanent CEMS, the project owner shall submit an operating protocol to the District for written approval. The portable CEMS shall remain in full operation at all times when the turbine is in operation until the permanent CEMS, which has been properly installed and certified, is in full operation at all times when the turbine is in operation.

Verification: The project owner shall provide copies of the operating protocol for the CEMS system to the District, for written approval, and to the CPM at least 60 days prior to operation of the CEMS system.

AQ-11 At least 60 days prior to initial firing of the gas turbines, the project owner shall submit a protocol to the District, for written approval, that shows how the permanent CEMS will be able to meet all District monitoring requirements and measure NO_x emissions at a level of 1.0 ppmv plus or minus 10%. In the event that CEMS technology to measure NO_x emissions at a level of 1.0 ppmv is not commercially available 60 days prior to initial startup, the project owner shall submit a report to the District regarding the status of the development of such technology. If the principal impediment to meeting the 10% relative accuracy requirement is the test method, the applicant shall propose an alternative measurement technique, for District and US EPA approval. If the CEMS installed by the applicant is unable to meet the 10% relative accuracy requirement, the applicant shall include in the annual relative accuracy report to the District, a reassessment for the commercial availability status for the technology. If the technology for the CEMS to meet the required accuracy becomes commercially available, the applicant shall retrofit the CEMS with such technology within 1 year of becoming available.

Verification: The project owner shall provide copies of the operating protocol for the CEMS system or a CEMS development status to the District, for written approval, and the CPM at least 60 days prior to the initial startup. If the principal impediment to meeting the 10% relative accuracy requirement is the test method, the applicant shall propose an alternative measurement technique, for District and US EPA approval. If the CEMS installed by the applicant is unable to meet the 10% relative accuracy requirement, the applicant shall include in the annual relative accuracy report to the District, a reassessment for the commercial availability status for the technology. If the technology for the CEMS to meet the required accuracy becomes commercially available, the applicant shall retrofit the CEMS with such technology within 1 year of becoming available.

AQ-12 At least 60 days prior to initial firing of the gas turbines, the project owner shall submit a protocol to the District for approval which shall specify a method for determining the CO/VOC surrogate relationship that shall be used to demonstrate compliance with all VOC emission limits.

Verification: The project owner shall provide copies of the operating protocol for the CO/VOC surrogate relationship used to demonstrate compliance with all VOC limits to the District, for written approval, and the CPM at least 60 days prior to the initial firing of the gas turbines.

AQ-13 Prior to initial firing, each turbine shall be equipped with continuous monitors to measure or calculate and record the following operational characteristics of each unit:

- natural gas flow rate (scfh),
- heat input rate (MMBtu/hr),
- exhaust gas flow rate (dscfm),
- exhaust gas temperature (°F), and
- power output (MW).

The monitors shall be installed, calibrated, and maintained in accordance with an approved protocol. This protocol, which shall include calculation methodology, shall be submitted to the District for written approval at least 60 days prior to initial firing of the gas turbines. The monitors shall be in full operation at all times when each turbine is in operation.

Verification: The project owner shall provide copies of the operating protocol, including the calculation methodology for the CEMS system or a CEMS development status to the District, for written approval, and the CPM at least 60 days prior to initial firing of the gas turbines.

AQ-14 All CEMS shall be certified, calibrated, maintained, and operated for the monitoring of NO_x and CO in accordance with applicable regulations including the requirements of Sections 60.7(c), 60.7(d), and 60.13 of Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Performance Standards of Appendix B of 40 CFR 60, Quality Assurance Procedures of Appendix F of 40 CFR 60 and 40 CFR 75, and a protocol approved in writing by the District.

Verification: These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-15 The District shall be notified in writing at least two (2) weeks prior to any proposed changes to be made in any Continuous Emission Monitor (CEM) software which affects the value of data displayed on the CEM monitors with respect to the parameters measured by their respective sensing devices.

Verification: The project owner shall provide notices of any proposed changes made to the CEM software, which affects the value of data displayed on the CEM monitors with respect to the parameters measured by their respective sensing devices, to the District and the CPM at least two (2) weeks prior to the changes.

AQ-16 No later than 90 days after each unit commences commercial operation, a Relative Accuracy Test Audit (RATA) shall be performed on the permanent CEMS in accordance with 40 CFR Part 75 Appendix A Specifications and Test Procedures. At least 45 days prior to the test date, the project owner shall submit a test protocol to the District for approval. Additionally, the District shall be notified a minimum of 45 days prior to the test so that observers may be present. Within 30 days of completion of this test, a written test report shall be submitted to the District for approval.

Verification: The project owner shall provide copies of the CEMS RATA test to the District and the CPM no later than 90 days after each unit commences commercial operation. The project owner shall provide notice of the CEMS RATA test date and provide a CEMS RATA test protocol to the District and the CPM at least 45 days prior to the tests. The project owner shall provide a written CEMS RATA test report to the District, for approval, and the CPM within 30 days of the test.

AQ-17 The total aggregate annual emissions of oxides of nitrogen (NO_x), calculated as nitrogen dioxide, from all emission units at the stationary source shall not exceed 100 tons per each consecutive 12-calendar month period. The NO_x emissions shall begin accruing at the initial firing of each turbine. Compliance with this limit shall be verified using the CEMS system on each gas turbine (Application Nos. 973880 and 973881) as well as EPA- or ARB-certified NO_x emissions factors, testing results, or other representative emissions information for all other combustion equipment, including emergency engines.

Verification: The project owner shall maintain records, at least on a calendar monthly basis, of total aggregate mass emissions of NO_x, in tons per year, from all equipment, excluding exempt equipment, at this stationary source for the previous 12-month period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives

of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-18 The project owner shall maintain records, at least on a calendar monthly basis, of total aggregate mass emissions of NO_x, in tons per year, from all equipment, including emergency equipment, at this stationary source for the previous 12-month period. These records shall be maintained on site for a minimum of five years and made available to District personnel upon request.

Verification: The project owner shall maintain records, at least on a calendar monthly basis, of total aggregate mass emissions of NO_x, in tons per year, from all equipment, excluding exempt equipment, at this stationary source for the previous 12-month period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-19 To ensure compliance with District Rule 69.3.1 and except during any period of time for which a variance from Rule 69.3.1 has been granted by the Air Pollution Control District Hearing Board, when operating without any post-combustion air pollution control equipment, the emissions of oxides of nitrogen (NO_x), calculated as nitrogen dioxide, from each turbine shall not exceed 19.8 parts per million by volume on a dry basis (ppmvd) calculated over a 1-hour averaging period and corrected to 15% oxygen, excluding startups and shutdowns as defined in District Rule 69.3.1.

Verification: The project owner shall maintain records of the NO_x emission concentrations of each gas turbine when operating without any post-combustion air pollution control equipment. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-20 To ensure compliance with District Rule 69.3.1 and except during any period of time for which a variance from Rule 69.3.1 has been granted by the Air Pollution Control District Hearing Board, when operating with post-combustion air pollution control equipment, emissions of oxides of nitrogen (NO_x), calculated as nitrogen dioxide, shall not exceed 11.8 parts per million by volume on a dry basis (ppmvd) calculated over a 1-hour averaging period and corrected to 15% oxygen, excluding startups and shutdowns as defined in District Rule 69.3.1.

Verification: The project owner shall maintain records of the NO_x emission concentrations of each gas turbine when operating with post-combustion air pollution control equipment. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-21 When operating without any post-combustion air pollution control equipment, the total emissions from both turbines combined shall not exceed 1649 pounds per hour of oxides of nitrogen (NO_x), calculated as nitrogen dioxide. Additionally, when operating without any post-combustion air pollution control equipment, the total emissions when only one turbine is in operation shall not exceed 1133 pounds per hour of NO_x. These emissions limits shall apply during startups and shutdowns.

Verification: The project owner shall maintain records of the NO_x mass emissions of each gas turbine when operating without any post-combustion air pollution control equipment. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-22 When operating with post-combustion air pollution control equipment, the total emissions from both turbines combined shall not exceed 412 pounds per hour of oxides of nitrogen (NO_x), calculated as nitrogen dioxide. Additionally, when operating with post-combustion air pollution control equipment, the total emissions when only one turbine is in operation shall not exceed 283 pounds per hour of NO_x. These emissions limits shall apply during startups and shutdowns.

Verification: The project owner shall maintain records of the NO_x emission concentrations of each gas turbine when operating with post-combustion air pollution control equipment. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-23 When operating at less than 40% load, the emissions of carbon monoxide (CO) shall not exceed 2500 ppm averaged over a 1-hour period nor exceed 1000 ppm averaged over an 8-hour period. When operating at 40% load

or greater, the emissions of carbon monoxide shall not exceed 1000 ppm averaged over a 1-hour period nor exceed 500 ppm averaged over an 8-hour period. All concentration limits shall be corrected to 15% oxygen. These limits shall apply during startups and shutdowns.

Verification: The project owner shall maintain records of the CO emission concentrations of each gas turbine when operating, including startup and shutdowns. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

COMMISSIONING PERIOD CONDITIONS

AQ-24 Beginning at initial firing of each turbine, a Commissioning Period for each turbine shall commence. This Commissioning Period shall end 120 days after initial firing or immediately after written acceptance of clear custody and control of the equipment is turned over to the project owner, whichever comes first. During this Commissioning Period, only the emission limits specified in Condition Nos. 17, 18, 19, 20, 21, 22, 23, and 25 shall apply.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the commissioning period. These records shall be included in the Commissioning Period Progress Report required in AQ-24, and maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

AQ-25 Within 30 days after initial firing of each turbine, the project owner shall install post-combustion air pollution control equipment to minimize emissions from this equipment. The applicant may request an extension, not to exceed an additional 30 days, in writing for District approval. This request shall include all technical reasons as to why the extension is needed. Such an extension will only be granted if the applicant can demonstrate that such extension:

- a. is not the result of neglect or disregard of any air pollution control requirement;
- b. is not intentional or the result of negligence, as defined in District Rule 98;

- c. is not the result of improper maintenance;
- d. will not cause a nuisance;
- e. is not likely to create an immediate threat or hazard to public health or safety;
- f. will not interfere with the attainment or maintenance of any National or California Ambient Air Quality Standard; and
- g. good cause is shown for the extension.

Once installed, the post-combustion air pollution control equipment shall be maintained in good condition and shall be in full operation at all times when the turbine is in operation.

Verification: The project owner shall install post-combustion air pollution control equipment to minimize emissions from this equipment within 30 days after the initial firing of the gas turbines, unless the project owner requests an extension, not to exceed an additional 30 days, in writing for District approval.

AQ-26 Within 10 days after the end of the Commissioning Period for each turbine, the project owner shall submit a written progress report to the District. This report shall include, at a minimum, the date that the Commissioning Period ended, the periods of startup, the emissions of NO_x and CO during startup, and the emissions of NO_x and CO during steady state operation with and without power augmentation. Emissions shall be in both ppmv and lbs/hr. This report shall also detail any turbine or emission control equipment malfunction, upsets, repairs, maintenance, modifications, or replacements affecting emissions of air contaminants that occurred during the Commissioning Period. The report shall also describe all planned actions and tests to be conducted during the Optimization Period.

Verification: The project owner shall submit a Commissioning Period Progress Report for each gas turbine to the District and the CPM within 10 days after the end of each gas turbine commissioning period.

OPTIMIZATION PERIOD CONDITIONS

AQ-27 In the event that the project owner elects to install the SCONO_x system, immediately upon the end of the Commissioning Period, the Optimization Period for each turbine shall commence. For the purposes of the District's Determination of Compliance and Authority to Construct, the Optimization Period shall be defined as a 6-calendar month period in which the facility shall undertake

all reasonable efforts to achieve a NO_x emission level of 1.0 ppmvd at 15% oxygen averaged over a three hour period. In the event that the project owner elects to install an SCR system, the facility shall comply with the conditions for on-going operations.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the optimization period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-28 The emissions during the Optimization Period shall not exceed any of the following concentration limits, corrected to 15% oxygen on a dry basis, as determined by the Continuous Emissions Monitoring System (CEMS) and the District approved CO/VOC surrogate relationship, as well as the limits specified in AQ Condition Nos. 17, 18, 19, 20, 21, 22, and 23:

<u>Pollutant</u>	<u>Emission Limit, ppmvd</u>
Oxides of Nitrogen, NO _x (calculated as NO ₂)	2.0 (24-hr. average)
Carbon Monoxide, CO	10.0 (3-hr. average)
Volatile Organic Compounds, VOC	2.0 (3-hr. average)

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the optimization period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-29 If the equipment is unable to meet the emission requirements of the Optimization Period, (with the exception of the 1.0 ppmvd target emission limit for NO_x), the District or the project owner may end the Optimization Period, in writing. In such case, the project owner shall replace the SCONO_x system with a selective catalytic reduction (SCR) system combined with an oxidation catalyst system, as approved by the District, and enter into the Replacement Period. A District decision to end the Optimization Period may be appealed to the District Hearing Board.

Verification: The project owner shall written notice the District and the CEC CPM of termination of the Optimization Period and the intent to replace the SCONO_x system with SCR/oxidation catalyst systems.

AQ-30 During the Optimization Period, the project owner shall submit a written 60-calendar day and 120-calendar day progress report to the District. This report shall include, at a minimum, the emissions of NO_x and CO during startup and continuous steady-state operation with and without power augmentation. These reports shall also detail any turbine or emission control equipment malfunction, upsets, repairs, maintenance, modifications, or replacements affecting emissions of air contaminants that occurred during the Optimization Period. These reports shall also describe all planned actions and tests to be conducted during the Optimization Period. Each report shall be submitted to the District, in writing, within 10 calendar days after the end of the 60-day and 120-day periods. In the event that the equipment cannot meet the requirements for on-going operations at the end of the Optimization Period, a final written report shall be submitted to the District within 10 calendar days after the end of the Optimization Period. This report shall include, at a minimum, the lowest sustainable NO_x and CO concentrations observed during the Optimization Period and the reasons that the equipment could not meet the requirements for on-going operations.

Verification: The project owner shall submit an Optimization Period Progress Report for each gas turbine to the District and the CPM no later than 10 days after calendar day 60 and calendar day 120 of the optimization period of each gas turbine.

REPLACEMENT PERIOD CONDITIONS

AQ-31 In the event that the equipment cannot meet the requirements for on-going operations, the Replacement Period shall begin immediately upon the end of the Optimization Period and shall end upon completion of the installation of the selective catalytic reduction (SCR) system and the oxidation catalyst. The Replacement Period shall not exceed 90 days.

Verification: The project owner shall notify the District and the CPM that the SCONO_x system cannot meet permit limits no later than 10 days after calendar day 120 of the optimization period. The project owner shall install a fully operational selective catalytic reduction (SCR) system within 90 days of the notification.

AQ-32 During the Replacement Period, the concentrations of oxides of nitrogen (NO_x), calculated as nitrogen dioxide, the concentrations of carbon monoxide (CO), and the concentrations of volatile organic compounds (VOCs) shall not exceed the lowest sustainable concentrations observed during the Optimization Period, as determined by the District. Additionally, the emission limits specified

in AQ Condition Nos. 17, 18, 19, 20, 21, 22, 23, 42, 43, 44, 45, 46, 47, and 48 shall apply.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the replacement period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-33 Before operating an SCR system, continuous monitors shall be installed on each turbine to monitor or calculate and record the following:

- ammonia stack concentration (ppmvd, corrected to 15% oxygen), and ammonia injection rate (lbs/hr).

The monitors shall be installed, calibrated, and maintained in accordance with an approved protocol. This protocol, which shall include calculation methodology, shall be submitted to the District for written approval at least 60 days prior to initial firing of the gas turbines with the SCR system. The monitors shall be in full operation at all times when the turbine is in operation.

Verification: The project owner shall provide copies of the CEMS installation, calibration and maintenance protocol, including the calculation methodology, to the District, for written approval, and the CPM at least 60 days prior to initial firing of the gas turbines with the SCR system.

AQ-34 If an SCR system is used for emission control, the emissions of ammonia (slippage) from each gas turbine exhaust stack, if controlled with an SCR system, shall not exceed 10.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

CONDITIONS FOR ON-GOING OPERATIONS

AQ-35 For the purposes of the District's Determination of Compliance and Authority to Construct, the period described as on-going operation of the turbines shall commence immediately following the end of the Optimization Period, or Replacement Period if required, or immediately upon the end of the

Commissioning Period if the applicant elects to install an SCR system. Condition Nos. AQ-17, -18, -19, -20, -21, -22 and -23 shall continue to apply during on-going operations.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-36 The emissions of oxides of nitrogen (NO_x) from each turbine, calculated as nitrogen dioxide, shall not exceed 2.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with this limit shall be based on CEMS data for each unit and averaged over each continuous 3-hour period, excluding hours when the equipment is operated under startup conditions. Compliance with this limit shall also be verified through an initial source test and annual source testing thereafter.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-37 The emissions of carbon monoxide (CO) from each turbine shall not exceed 6.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with these limits shall be based on CEMS data for each unit and averaged over each continuous 3-hour period, excluding hours when the equipment is operated under startup conditions. Compliance with this limit shall also be verified through an initial source test and annual source testing thereafter.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-38 The emissions of volatile organic compounds (VOC) from each turbine, calculated as nitrogen dioxide, shall not exceed 2.0 parts per million by volume

on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with the CO emission limits and the District approved CO/VOC surrogate relationship shall be deemed compliance with the VOC emission limits.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-39 When operated without power augmentation, the emissions from each turbine shall not exceed the following emission limits, except during startup conditions, as determined by the Continuous Emissions Monitoring System (CEMS) and continuous monitors and/or District approved emission source testing. Compliance with the NO_x and CO limits shall be based on a rolling continuous 3-hour averaging period and compliance with the VOC limit shall be based on a rolling continuous 1-hour averaging period:

<u>Pollutant</u>	<u>Emission Limit, lbs/hr</u>
Oxides of Nitrogen, NO _x (calculated as NO ₂)	14.0
Carbon Monoxide, CO	29.4
Volatile Organic Compounds, VOC	3.1

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating without power augmentation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-40 When operated with power augmentation, the emissions from this equipment shall not exceed the following emission limits, except during startup conditions, as determined by the Continuous Emissions Monitoring System (CEMS), the District approved CO/VOC surrogate relationship, and continuous monitors and/or District approved emission source testing. Compliance with the NO_x and CO limits shall be based on a rolling continuous 3-hour averaging period and compliance with the VOC limit shall be based on a rolling continuous 1-hour averaging period:

<u>Pollutant</u>	<u>Emission Limit, lbs/hr</u>
Oxides of Nitrogen, NO _x (calculated as NO ₂)	14.9
Carbon Monoxide, CO	27.1
Volatile Organic Compounds, VOC	3.3

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating with power augmentation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-41 This equipment shall not operate with power augmentation for more than 1800 hrs per turbine per rolling 365-day period. The project owner shall maintain a log that contains, at a minimum, the dates and time when one or both turbines are operated with power augmentation. This log shall be maintained on site for a minimum of five years and made available to District personnel upon request.

Verification: The project owner shall maintain records of the operation of the gas turbine with power augmentation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-42 When operated under hot/warm startup conditions, the emissions from each turbine shall not exceed the following emission limits, averaged over each rolling continuous 1-hour period, as determined by the Continuous Emissions Monitoring System (CEMS), the District approved CO/VOC surrogate relationship, and continuous monitors and/or District approved emission source testing:

<u>Pollutant</u>	<u>Emission Limit, lbs/hr</u>
Oxides of Nitrogen, NO _x (calculated as NO ₂)	44.0
Carbon Monoxide, CO	600.0
Volatile Organic Compounds, VOC	39.0

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the replacement period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-43 When operated under cold startup conditions, the emissions from each turbine shall not exceed the following emission limits, averaged over each rolling continuous 1-hour period, as determined by the Continuous Emissions Monitoring System (CEMS), the District approved CO/VOC surrogate relationship, and continuous monitors:

<u>Pollutant</u>	<u>Emission Limit (first hour), lbs/hr</u>
Oxides of Nitrogen, NO _x (calculated as NO ₂)	44.0
Carbon Monoxide, CO	887.0
Volatile Organic Compounds, VOC	49.0

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the replacement period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-44 Hot/warm startup shall be defined as the time necessary to meet the emission limits specified in Conditions 36 and 37, not to exceed 0.75 hours, after an initial firing following a shutdown period of less than 48 hours. The total time operating under hot/warm startup conditions shall not exceed 30 hours per calendar year for each turbine.

Verification: The project owner shall maintain records of the duration of hot/warm startups and shutdowns of each gas turbine. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-45 Cold startup shall be defined as the time necessary to meet the emission limits specified in Conditions 36 and 37, not to exceed 2.0 hours, after an initial firing following a shutdown period of greater than or equal to 48 hours. The total

time operating under cold start conditions shall not exceed 20 hours per calendar year for each turbine.

Verification: The project owner shall maintain records of the duration of cold startups of each gas turbine. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-46 Both gas turbines shall not be operated simultaneously in cold startup mode.

Verification: The project owner shall maintain records of the duration of cold startups of each gas turbine. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-47 The project owner shall maintain a log of all startups. The log shall contain, at a minimum, the type of startup, the dates and times of each startup, and the duration of each startup. This log shall be maintained on site for a minimum of five years and made available to District personnel upon request.

Verification: The project owner shall maintain records of the duration of all startups of each gas turbine. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-48 The emissions of particulate matter less than 10 microns (PM₁₀) shall not exceed 19.1 lbs/hr. Compliance with this limit shall be based on an initial compliance test and annual source testing thereafter.

Verification: The project owner shall provide copies of the initial compliance and annual source test reports to the District and the CEC CPM within 60 days after completion of the compliance or source tests.

AQ-49 Within 30 days after completion of the Optimization Period or Replacement Period (if needed) if the project owner elects to install a SCONox system or within 30 days after completion of the Commissioning Period if the project owner elected to install an SCR system, an initial source test shall be conducted by an independent, ARB approved tester at the project owner's

expense to show compliance with all applicable emission limits. A source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test protocol shall comply with the following requirements:

- a. Measurements of oxides of nitrogen (NO_x), carbon monoxide (CO), and stack gas oxygen content shall be conducted in accordance with the San Diego Air Pollution Control District Method 100, as approved by the U.S. Environmental Protection Agency (EPA).
- b. Measurements of particulate matter less than 10 microns shall be conducted in accordance with the U.S. Environmental Protection Agency (EPA) Methods 201A and 202.
- c. Measurements of volatile organic compounds (VOC) shall be conducted in accordance with San Diego Air Pollution Control District Methods 18 and 25A.
- d. Source testing shall be performed at no less than 80% of the turbine rating without power augmentation.
- f. The following additional operating characteristics shall also be measured or calculated and recorded:
 - natural gas flow rate (scfh),
 - fuel higher heating value (Btu/scf),
 - heat input rate (MMBtu/hr),
 - exhaust gas flow rate (dscfm),
 - exhaust gas temperature (°F),
 - power output (MW).

Verification: The project owner shall provide copies of the source test protocol to the District, written approval, and the CPM at least 60 days prior to source testing.

AQ-50 Within 30 days after completion of the Optimization Period or Replacement Period (if needed) if the project owner elects to install a SCONox system or within 30 days after completion of the Commissioning Period if the project owner elected to install an SCR system, an initial source test shall be conducted by an independent, ARB approved tester at the project owner's expense to determine the emissions of toxic air contaminants and federal hazardous air pollutants (HAPs). A source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test shall demonstrate compliance with the following limits (for each turbine):

<u>Pollutant</u>	<u>Emission Limit, lbs/hr</u>
Acetaldehyde	0.08
Acrolein	0.03
Benzene	0.015
Ethyl Benzene	0.02
Formaldehyde	2.33
Naphthalene	0.0019
Polyaromatic Hydrocarbons (PAHs)	0.0017
Toluene	0.08
Xylene	0.03

Verification: The project owner shall provide copies of the source test protocol to the District, for written approval, and the CPM at least 60 days prior to source testing.

AQ-51 Within 60 days after completion of the initial source tests, a final test report shall be submitted to the District for review and approval. The testing contractor shall include, as part of the test report, a certification that to the best of his knowledge the report is a true and accurate representation of the test conducted and the results.

Verification: The project owner shall provide copies of the final source test report to the District, for review and written approval, and the CPM within 60 days after the completion of the initial compliance test testing.

AQ-52 The final test report for the initial source tests shall also include a method for establishing a VOC/HAP surrogate relationship. This relationship, in conjunction with the CO/VOC surrogate relationship, shall be used to show continued compliance with all HAPs emission limits.

Verification: The project owner shall provide copies of the of the final source test report with a method to establish a VOC/HAP surrogate relationship to the District, for review and written approval, and the CPM within 60 days after the completion of the initial compliance test testing.

AQ-53 This equipment shall be source tested on an annual basis to show continued compliance with all applicable emission limits, unless otherwise directed in writing by the District. If this testing will be performed by someone other than the District, a source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test protocol shall comply with the following requirements:

- a. Measurements of oxides of nitrogen (NO_x), carbon monoxide (CO), and stack gas oxygen content shall be conducted in accordance with the San Diego Air Pollution Control District Method 100, or equivalent, as approved by the U.S. Environmental Protection Agency (EPA).
- b. Measurements of particulate matter less than 10 microns shall be conducted in accordance with the U.S. Environmental Protection Agency (EPA) Methods 201A and 202.
- c. Measurements of volatile organic compounds (VOC) shall be conducted in accordance with San Diego Air Pollution Control District Methods 18 and 25A.
- d. Source testing shall be performed at no less than 80% of the turbine rating without power augmentation.
- e. The following additional operating characteristics shall also be measured or calculated and recorded:
 - natural gas flow rate (scfh),
 - fuel higher heating value (Btu/scf),
 - heat input rate (MMBtu/hr),
 - exhaust gas flow rate (dscfm),
 - exhaust gas temperature (°F),
 - power output (gross MW).

Verification: This project owner provide copies of the annual source test reports to the District for review and written approval, and the CPM within 60 days after the completion of the initial compliance testing.

AQ-54 The emissions of any single federal hazardous air pollutant, and the aggregate of all federal hazardous air pollutants, shall not equal or exceed 10 tons or 25 tons, respectively, in any continuous 12 calendar month period. If emissions exceed these limits, the permittee shall apply to amend these limits and conduct a case-by case Maximum Achievable Control Technology (MACT) analysis in accordance with applicable federal EPA regulations.

Verification: The project owner shall maintain records of the mass emissions of the hazardous air pollutants of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

EMISSION OFFSET CONDITIONS

AQ-55 Prior to the initial firing of this equipment, the project owner shall surrender to the District the Class A Emission Reduction Credits (ERCs) or Mobile Emission Reduction Credits (MERCs) specified in the table below. The amount should be equivalent to 120 tons per year of NOx to offset the maximum permitted NOx emissions from this facility.

Project Emission Reduction Credits

Offset source		NOx	VOC
ERCs	US Foam		30.2
	US Foam	1.3	
	National Offset	4.4	
	Alcoa	1.21	
	Napp Systems		17.05
	Solar Turbines		25
	Designz Unlimited		10.3
	American Fashion	0.7	
	City of San Diego	2.71	
MERCs	San Diego Harbor Excursion: diesel to diesel	29.96	
	Western Maritime: diesel to diesel conversion	8.37	
	WMI: diesel to natural gas engines	35.25	
ERCs: Nox and VOC		83.90	82.55

Verification: The project owner shall provide copies of the ERC or MERC certificates shown in the table to the District and the CPM 30 days prior to the combustion of fuel in the gas turbines.

AQ-56 Beginning with the start of the ongoing emission reduction monitoring period as defined in Alternative Mobile Source Emission Reduction Program for Replacing Heavy and Medium Heavy-Duty Diesel Powered Vehicles and Repowering of Marine Vessels Under Rule 27 (c)(1)(vi) as approved on September 8, 2000 (herein referred to as the Alternative MERC Program), the owner or operator shall, on or before the last day of the second calendar month following the end of each ongoing emission reduction monitoring year:

- a. For each ongoing emission reduction monitoring year, based on the quarterly activity levels submitted by the mobile source owners and the applicable calculation method specified in the Alternative MERC Programs, perform a calculation of the annual average and annual aggregate ongoing emission reductions and the ongoing emission reduction deficit, if any, for the MERCs surrendered to offset the facility's emissions;
- b. Provide an annual report to the District that summarizes the annual average ongoing emission reductions for each MERC, aggregate ongoing emission reductions, and the ongoing emission reduction deficit, if any, and provides supporting calculations and documentation; and
- c. If the calculated annual ongoing emission reduction deficit is positive, notify the District, provide a compliance schedule to correct the ongoing emission reduction deficit, and correct the ongoing emission reduction deficit in accordance with Subsection (h)(4) of the Alternative MERC Program.

Verification: The project owner shall submit an annual MERC report to the District and the CPM on or before the last day of the second calendar month following the end of each ongoing emission reduction monitoring year.

AQ-57 Beginning with the second calendar year following the calendar year that the facility commences operations, the owner or operator shall, on or before March 1 of each calendar year:

- a. Based on information supplied by the mobile source owners for each MERC surrendered to the District, notify the District if the MERC fractional employment is less than 0.8;
- b. Based on information supplied by the mobile source owners for each MERC surrendered to the District, notify the District if the MERC fractional employment in primary service is less than 0.8; and
- c. If one or more MERCs fractional employment or fractional employment in primary service is less than 0.8, provide a compliance schedule to correct any MERC shortfall and correct any MERC shortfall in accordance with Subsection (j)(4) of the Alternative MERC Program.

Verification: The project owner shall submit a report on MERC monitoring to the District and the CPM on or before March 1 of each calendar year.

AQ-58 The permittee may apply for the refund of any unneeded ERCs or MERCs, or portion thereof, surrendered to the District to provide offsets for the facility's NO_x emissions. To obtain such a refund the permittee must demonstrate a lower emission rate than the emission rate on which the total offset amount was based and accept practicably enforceable permit conditions that reduce potential NO_x emissions to that lower level and apply for the refund within 3 calendar years of the District's approval of the initial permit to operate. Any MERCs or portions thereof, shall be refunded only if the provisions of Subsection (m) of the Alternative MERC Program are satisfied and shall have their lifetimes and lifetime beginning date adjusted in accordance with Subsection (f)(5) of the Alternative MERC Program. .

Verification: The project owner shall submit any request for a refund of any unneeded NO_x ERCs or MERCs or portion thereof to the District and the CPM within three (3) calendar years of the District's approval of the initial permit to operate.

AQ-59 No later than 20 years after the initial firing of the equipment, whether SCR or SCONOX is installed, the emissions of oxides of nitrogen (NO_x) shall not exceed 1.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with this limit shall be based on CEMS data for each unit and averaged over each 3-hour period, excluding hours when the equipment is operated under any startup condition. Additionally, the total annual emissions of oxides of nitrogen (NO_x), calculated as nitrogen dioxide, shall not exceed 50 tons per rolling 12-month period. Compliance with this limit shall be verified using the CEMS system on each gas turbine (Application Nos. 973880 and 973881).

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine during commissioning, optimization, replacement and operation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

ADDITIONAL GENERAL CONDITIONS

AQ-60 For each emission limit expressed as pounds per hour or parts per million based on a 1-hour averaging period, compliance shall be based on each

rolling continuous 1-hour period using data collected at least once every 15 minutes when compliance is based on continuous emissions monitoring data.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine during commissioning, optimization, replacement and operation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. Quarterly reports shall be sent to the CEC CPM within 60 days after each calendar quarter.

AQ-61 For each emission limit expressed as pounds per hour or parts per million based on a 3-hour averaging period, compliance shall be based on each rolling continuous 3-hour period using data collected at least once every 15 minutes when compliance is based on continuous emissions monitoring data.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine during commissioning, optimization, replacement and operation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. Quarterly reports shall be sent to the CEC CPM within 60 days after each calendar quarter.

AQ-62 All records required by these conditions shall be maintained on site for a minimum of five years and made available to District personnel upon request. In addition, quarterly reports of information recorded by these conditions, as specified, shall be sent to the CPM

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine during commissioning, optimization, replacement and operation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. Quarterly reports shall be sent to the CEC CPM within 60 days after each calendar quarter.

AQ-63 Pursuant to 40 CFR 72.30(b)(2)(ii) of the Federal Acid Rain Program, the project owner shall submit an application for a Title IV Operating Permit at least 24 months prior to the initial startup of this equipment.

Verification: The project owner shall submit an application for a Title IV Operating Permit to the District, and provide a copy of the application to the CPM, at least 24 months prior to the initial startup.

AQ-64 The project owner shall comply with the continuous emission monitoring requirements of 40 CFR Part 75.

Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

AQ-65 The project owner shall submit an application to the District for a Federal (Title V) Operating Permit, in accordance with District Regulation 14 within 12 months of initial startup of this equipment.

Verification: The project owner shall submit an application for a Title V Operating Permit to the District, and provide a copy of the application to the CPM, within 12 months prior to the initial startup.

CONDITIONS OF CERTIFICATION numbers AQ-66 through AQ-69 are reserved for future use.

ENERGY COMMISSION CONDITIONS

The Energy Commission requires the following conditions in addition to those included in the Air District's Determination of Compliance.

For the purposes of these conditions, the following definitions apply:

(1) **ACTIVE OPERATIONS** shall mean any activity capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, or heavy- and light-duty vehicular movement.

(2) **CHEMICAL STABILIZERS** mean any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation; and should meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

- (3) CONSTRUCTION/DEMOLITION ACTIVITIES are any on-site mechanical activities preparatory to or related to the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities; grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.
- (4) DISTURBED SURFACE AREA means a portion of the earth s surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust.
- (5) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- (6) EARTH-MOVING ACTIVITIES shall include, but not be limited to, grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, or soil mulching.
- (7) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of man.
- (8) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of ten consecutive days.
- (9) STABILIZED SURFACE means:
 - (A) any disturbed surface area or open storage pile which is resistant to wind-driven fugitive dust;
 - (B) any unpaved road surface in which any fugitive dust plume emanating from vehicular traffic does not exceed 20 percent opacity.
- (10) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

AQ-70 The project owner shall implement a CEC CPM approved fugitive Dust Control Plan.

Protocol: The plan shall include the following:

1. A description of each of the active operation(s) which may result in the generation of fugitive dust;
2. An identification of all sources of fugitive dust (e.g., earth-moving, storage piles, vehicular traffic, etc).
3. A description of the control measures to be applied to each of the sources of dust emissions identified above (including those required in AQ-71 and -72 below). The description must be sufficiently detailed to demonstrate that the applicable best available control measure(s) as specified in Table 1 (attached) will be utilized and/or installed during all periods of active operations;
4. In the event that there are special technical (e.g., non-economic) circumstances, including safety, which prevent the use of at least one of the required control measures for any of the sources identified, a justification statement must be provided to explain the reason(s) why the required control measures cannot be implemented.

Verification: Not later than 60 days prior to the commencement of construction, the project owner shall submit the plan to the CEC CPM for review and approval. The project owner shall maintain daily records to document the specific actions taken pursuant to the plan and Table 1. A summary of the monthly activities shall be submitted to the CPM via the Monthly Compliance Report.

AQ-71 During the construction phase of the project, the project owner shall:

1. Prevent or remove within one hour the track-out of bulk material onto public paved roadways as a result of their operations, or take at least one of the actions listed in Table 2 (attached) to prevent the track-out of bulk material onto public paved roadways as a result of their operations and remove such material at anytime track-out extends for a cumulative distance of greater than 50 feet on to any paved public road during active operations;
2. Install and use a track-out control device to prevent the track-out of bulk material from areas containing soils requiring corrective to other areas within the project construction site and laydown area;
3. Minimize fugitive particulate emissions from vehicular traffic on paved roads and paved parking lots on the construction site by vacuum mechanical sweeping or water flushing of the road

surface to remove buildup of loose material. The project owner shall inspect on a daily basis the conditions of the paved roads and parking lots to determine the need for mechanical sweeping or water flushing.

Verification: The project owner shall maintain a daily log during the construction phase of the project indicating: 1) the manner in which compliance with this condition or Table 2 is achieved, and 2) the date and time when the inspection of paved roads and parking lots occurs and the date and time(s) when the cleaning operation occurs. The logs shall be made available to the California Energy Commission CPM upon request.

AQ-72 At any time when fugitive dust from OMGP project construction is visible in the atmosphere beyond the property line, the project owner will identify the source of the fugitive dust and implement one or more of the appropriate control measures specified in Table 3 (attached)

Verification: The project owner will maintain a daily log recording the dates and times that measures in Table 3 (attached) have been implemented and make them available to the CPM upon request.

AQ-73 The project owner shall implement an approved Construction Equipment Plan. The Plan shall identify how the project owner will ensure that all heavy equipment, that includes, but is not limited to, bulldozers, backhoes, compactors, loaders, motor graders and trenchers, and cranes, dump trucks and other heavy duty construction related trucks, used on-site by construction contractors and subcontractors:

- a. are properly maintained;
- b. use low sulfur diesel fuel, 50 ppm sulfur or less;
- c. limit idling times; and
- d. meet federal emission standards for construction equipment.

Verification: No later than 60 days prior to the commencement of construction, the project owner shall submit the plan to the California Energy Commission CPM for review and approval. The project owner shall maintain records to document the specific actions taken pursuant to the plan. A summary of the monthly activities shall be submitted to the CPM via the Monthly Compliance Report.

AQ-74 The project owner shall ensure that all heavy earthmoving equipment including, but not limited to, bulldozers, backhoes, compactors, loaders, motor graders and trenchers, and cranes, dump trucks and other heavy duty

construction related trucks, have been properly maintained and the engines tuned to the engine manufacturer's specifications. The project owner shall also install oxidizing soot filters on all suitable construction equipment used either on the power plant construction site or associated linear construction sites. Where the oxidizing soot filter is determined to be unsuitable, the owner shall install and use an oxidizing catalyst. Additionally, the project owner shall employ high pressure fuel injection, timing retardation, and reduced idle time on all suitable construction equipment. Suitability is to be determined by an independent California Licensed Mechanical Engineer or a Qualified Environmental Professional who will stamp and submit for approval an initial and all subsequent Suitability Reports as necessary containing at a minimum the following:

A. Initial Suitability Report:

- The initial suitability report shall be submitted to the CPM for approval 60 days prior to the relevant equipment being used at the project site.
- A list of all fuel burning, construction related equipment used,
- a determination of the suitability of each piece of equipment to work appropriately with an oxidizing soot filter, or an oxidizing catalyst,
- if a piece of equipment is determined to be suitable, a statement by the equipment or catalyst manufacturers, the independent California Licensed Mechanical Engineer, or a Qualified Environmental Professional that the oxidizing soot filter has been installed and is functioning properly,
- if a piece of equipment is determined to be unsuitable, an explanation by the equipment or catalyst manufacturers, the independent California Licensed Mechanical Engineer, or a Qualified Environmental Professional as to the cause of this determination, and
- a statement by the equipment or catalyst manufacturers, the California Licensed Mechanical Engineer, or a Qualified Environmental Professional as to the suitability of using high-pressure fuel injectors, timing retardation and/or reduced idle time on all construction equipment after the installation of either oxidizing soot filters or oxidizing catalysts.

B. Subsequent Suitability Reports:

- If a piece of construction equipment is subsequently determined to be unsuitable for an oxidizing soot filter after such installation has occurred, the filter may be removed immediately. However notification must be sent to the CPM for approval containing an explanation for the change in suitability within 10 days.
- Changes in suitability are restricted to three explanations, which must be identified in any subsequent suitability report. Changes

in suitability may not be based on the use of high-pressure fuel injectors, timing retardation and/or reduced idle time.

- The oxidizing soot filter is reducing normal availability of the construction equipment due to increased downtime, and/or power output due to increased back pressure by 20% or more.
- The oxidizing soot filter is causing or reasonably expected to cause significant damage to the construction equipment engine.
- The oxidizing soot filter is causing or reasonably expected to cause a significant risk to nearby workers or the public.
- Changes in suitability may not be based on the use of high-pressure fuel injectors, timing retardation and/or reduced idle time.

Verification: The project owner shall submit to the CPM, via the Monthly Compliance Report, documentation, which demonstrates that the contractor's heavy earthmoving equipment is properly maintained and the engines are tuned to the manufacturer's specifications. The project owner shall maintain all records on the site for six months following the start of commercial operation. The project owner will submit to the CPM for approval, the initial suitability report stamped by an independent California Licensed Mechanical Engineer or a Qualified Environmental Professional, 60 days prior to breaking ground on the project site. The project owner will submit to the CPM for approval, subsequent suitability reports as required, stamped by an independent California Licensed Mechanical Engineer or a Qualified Environmental Professional, no later than 10 working day following a change in the suitability status of any construction equipment.

AQ-75 The owner/operator shall provide \$1.2 million, as a mitigation fee for potential PM10 and PM10 precursor impacts, to the District APCO to provide PM10 and PM10 precursor reductions throughout the District. The fees shall be provided to the District, who with guidance from CARB or the CEC, will allocate the funds to programs such as the Lower-Emission School Bus Retrofit Program, the Carl Moyer Program, or some other program designed to reduce PM10 and PM10 precursor emission in District.

The District shall preferentially make available the mitigation fee funds to the Sweetwater Union High, the San Ysidro Elementary, the South Bay Elementary, or the Chula Vista Elementary School Districts for school bus retrofits. The preference shall be in the form of a first right of refusal given to the above districts for no more than 2 years from the date of the first fee payment by the owner. Any mitigation fee funds not used by the above school districts or available after 2 years from the date of the first fee payment by the owner shall be made available for other program-appropriate emission reductions through the District's program.

Verification: The owner/operator shall provide the funds to the District APCO in two installments. The first payment of \$0.6 million shall be provided no

later than the date of delivery of the first combustion turbine to the project site. The second and last payment of \$0.6 million shall be provided no later than 6 months after the date of delivery of the first combustion turbine to the project site. Copies of the payments shall be provided to the CEC CPM 20 days after delivery of the deposit to the District.

AQ-76 The owner/operator shall assign to the project all PM10, VOC and SOX emission reductions that occur intentionally or incidentally during the formation of the NOx MERC for the project. The PM10, VOC and SOx emission reductions are part of the PM10 and PM10 precursor mitigation for the project.

Verification: The owner/operator shall provide a letter assigning to the project, and for the life of the project, all PM10, VOC and SOX emission reductions that occur intentionally or incidentally during the formation of the project's NOx MERCs. The letter shall be provided to the CEC CPM with the surrender of the ERC and MERC certificates identified in Condition AQ-55.

B. PUBLIC HEALTH

The public health analysis supplements the previous discussion on air quality and looks at potential public health effects from project emissions of toxic air contaminants. In this analysis, the Commission considers whether such emissions will result in significant adverse public health impacts that violate standards for public health protection.⁴⁰

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will result in routine emissions of toxic air contaminants (TACs). These substances are categorized as noncriteria pollutants because there are no ambient air quality standards established to regulate their emissions.⁴¹ In the absence of standards, state and federal regulatory programs have developed a health risk assessment procedure to evaluate potential health effects from TAC emissions.⁴² The Air Toxics Hot Spots Information and Assessment Act requires the quantification of TACs from specified facilities that are categorized according to their emissions levels and proximity to sensitive receptors. (Health and Safety Code, §44360 et seq.)

⁴⁰ This Decision addresses other potential public health concerns in the following sections. The accidental release of hazardous materials is discussed in **Hazardous Materials Management** and **Worker Safety and Fire Protection**. Electromagnetic fields are discussed in the section on **Transmission Line Safety and Nuisance**. Potential impacts to soils and surface water sources are discussed in the **Soils and Water Resources** section. Hazardous and non-hazardous wastes are described in **Waste Management**.

⁴¹ Criteria pollutants are discussed in the Air Quality section. They are pollutants for which ambient air quality standards have been established by local, state, and federal regulatory agencies. The emission control technologies that the project owner will employ to mitigate criteria pollutant emissions are considered effective for controlling noncriteria pollutant emissions from the same source. (Ex. 64, p. 29.)

⁴² The health risk assessment protocol is set forth in the Air Toxics Hot Spot Program Risk Assessment Guidelines developed by the California Air Pollution Control Officers Association

1. Health Risk Assessment

Applicant performed a health risk assessment that was reviewed by Staff and the San Diego Air Pollution Control District (SDAPCD or Air District). Applicant's risk assessment employed scientifically accepted methodology that is consistent with the CAPCOA Guidelines and with methods developed by the California Office of Environmental Health Hazard Assessment (OEHHA). (Ex. 1, / 5.16.2.1 et seq.; Ex. 64, p. 28.) This approach emphasizes a worst-case screening analysis to evaluate the highest level of potential impact. Applicant included the following steps in its analysis:

- A hazard identification was performed to determine pollutants of concern associated with the turbine operations;
- An exposure assessment was performed that included toxic air contaminant emission calculations and the simulation of pollutant transport using atmospheric dispersion modeling; and
- A risk characterization was performed analyzing potential health risks from these calculated exposures, which included identifying the location of maximum cancer and non-cancer health risks

Subsequent to identifying the locations of maximum impact, a multi-pathway analysis was performed for the maximum impact and sensitive receptor locations. The multi-pathway analysis included the inhalation pathway, dermal (skin) absorption, ingestion of soil with deposited pollutants, and exposure to pollutants potentially in mother's milk.

The risk assessment addresses three categories of health impacts: acute (short-term), chronic (long-term), and carcinogenic adverse health effects. (Ex. 1, / 5.16.; Ex. 64, p. 25)

Regulatory agencies use the hazard index method to assess the likelihood of acute or chronic non-cancer effects. In this approach, a hazard index is a

(CAPCOA) pursuant to the Air Toxics Hot Spots Information and Assessment Act (Health and Safety Code, / 44360 et seq.). See, Ex. 1, p. 5.16-2.

numerical representation of the likelihood of significant health impacts at the reference exposure levels (RELs) expected for the source in question. After calculating the hazard indices for the individual pollutants,⁴³ these indices are added together to obtain a total hazard index. A total hazard index of 1.0 or less is considered an insignificant effect. (Ex. 64, p. 26.)

Potential cancer risk is calculated by multiplying the exposure estimate by the potency factors for the individual carcinogens involved.⁴⁴ The exposure estimate is based on a worst-case scenario, which assumes a maximally exposed individual (MEI) at the point of highest toxicity 24 hours a day, 365 days a year over a 70-year period. The greatest true exposure is likely to be at least 10 times lower than that calculated using the MEI assumption since no real person would be in the same spot for 70 years. (Ex. 1, / 5.16.2.4.3.) Further, annual emissions are calculated assuming simultaneous operation of both turbines at 100 percent load, which will not always occur under real operating conditions. (Ex. 1, p. 5.16-6.) Given the conservative approach taken in making these calculations, the numerical estimates are designed to represent the upper bounds of cancer risk. Energy Commission staff considers a potential cancer risk of one in a million as the level of significance.⁴⁵ (Ex. 64, p. 27.)

2. Potential Impacts

⁴³ The project's noncriteria pollutants that were considered in analyzing non-cancer effects include: ammonia, used for the SCR system alternative for NOx control, acetaldehyde, acrolein, benzene, 1,3 butadiene; ethylbenzene, formaldehyde, hexane, naphthalene, polycyclic aromatic hydrocarbons (PAHs), propylene oxide, toluene, and xylenes. (Ex. 1, / 5.16, Table 5.16-1; Ex. 64, p. 29.)

⁴⁴ The following noncriteria pollutants were considered with regard to possible cancer risk: acetaldehyde, benzene, 1,3 butadiene, formaldehyde, PAHs and propylene oxide. (Ex. 1, / 5.16, Table 5.16-1.)

⁴⁵ Various state and federal agencies specify different cancer risk significance levels. Under the Air Toxics Hot Spots and the Proposition 65 programs, for example, a risk of 10 in a million is considered significant and used as a threshold for public notification. The SDAPCD considers the

Sensitive receptors (schools, day care centers) are located within a five-kilometer radius of the site. The nearest residence is 0.85 kilometers to the southwest. There are four correctional facilities located between 1.73 to 2.27 kilometers generally to the north. There are also nine day care centers and six schools within a five-kilometer radius of the site. (Ex. 1, Table 5.16-6.) Applicant performed USEPA-approved air dispersion modeling. To identify the points of maximum impact, a multi-scale grid of receptors was used. Near the site, receptors were placed along the property boundary at 25-meter increments. Additional receptors were placed in 50-meter increments to a distance of approximately one kilometer to the west of the site and approximately four kilometers to the east of the site. Locations of maximum impact for project emissions fell within the 50-meter grid. (Ex. 1, p. 5.16-8.)

Construction Phase Impact. The construction phase of the Otay Mesa Generating Project is expected to take approximately twenty months. Construction-phase impacts are those from human exposure to (1) the windblown dust from site grading and other construction-related activities, and (2) emissions from the heavy equipment and vehicles to be used for such construction. (Ex. 64, p. 27; Ex. 1, / 5.16.2.1.) Applicant has presented an acceptable procedure for estimating the project's construction-related PM10 levels and has specified the total amount to be emitted together with the concentrations in the impact areas of potential concern. (Ex. 64, p. 27.)

Since no hazardous substances were identified from the Environmental Site Assessment for the project, any health impacts from dust exposure would result only from the physical presence of the inhaled PM10 fraction, without additional toxicity from toxicants that could have been absorbed on to them. (Ex. 64, p. 28.) The procedures for mitigating these short-term PM10 emissions are addressed in the **Air Quality** section.

same risk of 10 in a million as acceptable for a source such as OMGP where the best available control technology for air toxics (T-BACT) is used. (Ex. 64, p. 27.)

No significant public health effects are expected during construction since construction-related emissions are temporary and localized. (Ex. 1,/5.16.2.1.) All predicted maximum concentrations of pollutants from construction vehicles and equipment will occur at locations along the immediate property boundary, resulting in no long-term impacts to the public. (Ex. 1,/5.16.2.1, Ex. 64, p. 28.) Applicant has specified the mitigation measures necessary to minimize emissions with maximum impacts around the property line. (Ex. 64, p. 28; Ex. 1,/5.16.2.1.)

Direct Operational Impacts. TACs emitted in combustion byproducts from the project's exhaust stacks have the potential to cause adverse health effects. Applicant calculated a *chronic* non-cancer hazard index of 0.24 for the maximum impact location for all toxic endpoints. It assumes the alternative SCR for NO_x control. (Ex. 1,/5.16.2.3.3.) Using the proposed SCONOx⁴⁶ control technology would slightly decrease this hazard index to 0.20 because ammonia slip emission is eliminated from the calculation. (*Ibid.*) Applicant calculated an *acute* non-cancer hazard index of 0.20 for the same maximum impact location using the SCR system. This index would decrease to 0.12 with the proposed SCONOx⁴⁶ system. (*Ibid.*)

The evidence establishes that these indices are below the levels of potential health significance, indicating that no significant adverse health effects would likely be associated with the project's noncriteria pollutants whether NO_x is controlled by SCONOx⁴⁶ technology or the alternative SCR system. (Ex. 1,/5.16.2.3.2 et seq.) Moreover, there are no sensitive receptors at the point of maximum impact.⁴⁶

⁴⁶ A more recent chronic hazard index of 0.118 was calculated for the maximum impact location (approximately 0.5 km southeast of the site), using the alternative SCR for Nox control. With the use of the SCONOx system, this hazard index would decrease slightly to 0.116 because of the absence of ammonia. An acute hazard index of 0.665 for the same maximum impact location was calculated for both the SCONOx and the SCR system. (Ex. 64, p. 29.)

The highest combined cancer risk was estimated at 0.92 in a million for the MEI at the maximum impact location. (Exhibit 64, p. 29.) This risk value is below Staff's *de minimis* significance level and would not change with the use of SCR since the ammonia required for SCR is not a carcinogen. It is also significantly below the level considered acceptable by the Air District for sources such as OMGP. (Ex. 64, p. 29.)

3. Cumulative Impacts

When toxic pollutants are emitted from multiple sources within a given area, the cumulative or additive impacts of such emissions could lead to significant health impacts, even when such pollutants are emitted at insignificant levels from the individual sources involved. Analyses of such emissions have shown, however, that the peak impacts of such toxic pollutants are normally localized within relatively short distances from the source. Toxic pollutant levels beyond the point of maximum impact normally fall within ambient background levels.

In this case the point of maximum impacts was identified as a location only 0.5 kilometers from the project. Therefore, potentially significant cumulative impacts are only expected in situations where new sources are located adjacent to one another. Since no significant pollutant sources are presently located or proposed for the project's impact area, no exposures of a cumulative nature are expected during the project operational phase. (Ex. 64, p. 30.)

4. Intervenor

Intervenor Holly Duncan expressed concern about the efficacy of PM₁₀ mitigation. (11/21/00 RT 254-258.) Since the local Air District does not require PM₁₀ offsets, Staff developed the PM₁₀ mitigation package in the context of its CEQA analysis. (*Ibid.*) With respect to public health effects of PM₁₀, the hazard index for the area's background PM₁₀ levels is calculated after the most

representative area background data are established. The hazard index from such ambient measurements facilitates Staff's assessment of the extent of any mitigation considered necessary to offset the project's contribution to the area's PM10 levels. (Ex. 64, p. 29.) PM10-specific mitigation measures and Conditions of Certification are detailed in the **Air Quality** section. No significant public health impacts are considered likely by Staff with regard to PM10 emissions and therefore no Public Health Conditions of Certification are proposed with respect to PM10.

Intervenor Save Our Bay expressed concern about the impact of carbon dioxide emissions on global warming. (11/21/00 RT 259-262; Ex. 71.) There are no specific rules that treat carbon dioxide as a toxic air pollutant. (11/21/00 RT 261:15-25.)

FINDINGS AND CONCLUSIONS

It was established that the construction and operation of the proposed natural gas-burning project would not pose a significant public health risk to the surrounding population with regard to the toxic pollutants considered. Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Normal operation of the Otay Mesa Generating Project will result in the routine release of criteria and noncriteria pollutants that have the potential to adversely impact public health.
2. Emissions of criteria pollutants, which are discussed in the Air Quality section of this Decision, will be mitigated to levels consistent with applicable standards.
3. Applicant performed a health risk assessment, using well-established scientific protocol, to analyze potential adverse health effects of noncriteria pollutants emitted by Otay Mesa Generating Project.
4. There are sensitive receptors within a five kilometer radius of the project site.

5. The point of maximum impact for toxic contaminant dispersion is located about 0.5 kilometers southeast of the site.
6. Acute and chronic non-cancer health risks from project emissions during construction and operational activities are insignificant.
7. The potential risk of cancer from project emissions is insignificant.
8. There is no evidence of cumulative public health impacts from project emissions.

The Commission therefore concludes that project emissions of noncriteria pollutants do not pose a significant direct, indirect, or cumulative adverse public health risk. All Conditions of Certification that control project emissions are specified in the **Air Quality** section of this Decision.

C. WORKER SAFETY AND FIRE PROTECTION

Industrial workers are exposed to potential health and safety hazards on a daily basis. This analysis reviews whether Applicant's proposed health and safety plans are designed to protect industrial workers and provide adequate fire protection and emergency service response in accordance with all applicable laws, ordinances, regulations, and standards (LORS).

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Potential Impacts to Worker Safety

During construction and operation, workers may be exposed to chemical spills, hazardous wastes, fires, gas explosions, moving equipment, live electric conductors, confined space entry and egress problems, and exposure to contaminated soils.⁴⁷ (Ex. 1, Table 5.17-1; Ex. 64, p. 39) Exposure to these hazards can be minimized through adherence to appropriate design criteria and administrative controls, use of personal protective equipment (PPE), and compliance with applicable LORS.⁴⁸ (Ex. 1, 5.17.2.1.)

2. Mitigation Measures

Applicant will develop and implement a Construction Safety and Health Program and an Operation Safety and Health Program, both of which must be reviewed by the appropriate agencies prior to project construction and operation. (Ex. 1, 5.17.2.1.1, 5.17.2.1.2; Ex. 64, pp. 40-48.) Separate Injury and Illness

⁴⁷ In the event that contaminated soils or underground storage facilities are encountered during excavation activities, the project owner must develop a management and removal plan consistent with Condition **WASTE-4** in the Waste Management section of this Decision.

⁴⁸ California Occupational Health and Safety Administration (Cal/OSHA) regulations (Cal. Code of Regs., tit. 8, 1500 et seq.) and other applicable federal, state, and local laws affecting industrial workers are identified in Appendix A of this Decision. See also, Ex. 64, pp. 33-36, 40-48.

Prevention Programs, Fire Protection and Prevention Plans, and Personal Protective Equipment Programs will also be prepared for both the construction and operation phases of the project. (*Ibid.*) These comprehensive programs will contain more specific plans dealing with the site and linear facilities, such as the Emergency Action Plan, as well as additional programs under the General Industry Safety Orders, Electrical Safety Orders, and Unfired Pressure Vessel Safety Orders. (*Ibid.*) Conditions **Worker Safety-1** and **Worker Safety-2** require the project owner to consult with Cal/OSHA⁴⁹, as appropriate, and the San Diego County Fire Department and Regional Fire Protection District (RFPD) to ensure that these programs comply with applicable LORS.

3. Fire Protection and Prevention Plans

According to Applicant's testimony, the project will include comprehensive onsite fire protection and suppression systems. Staff indicated that this proposal would comply with minimum fire protection requirements. (Ex. 64, p. 48.) The San Diego County Fire Department must approve Applicant's design plans for the fire protection and suppression systems prior to construction. (Ex. 1, p. 5.17-14 et seq.) See, Condition **Worker Safety-3**. The Fire Department will also conduct the final inspection when construction is complete as well as periodic fire and safety inspections thereafter. (*Id.* at p. 5.17-16.) In addition, the project's insurance carrier will provide annual inspections by a fire protection specialist. (*Ibid.*)

The RFPD, in conjunction with the San Diego County Fire Department, will provide fire and emergency services as described in the Fire Protection and Prevention Plans. **Worker Safety and Fire Protection Table 1**, replicated from

⁴⁹ Applicant asserted that Cal/OSHA does not review Health and Safety Plans until the plant is in operation. (Ex. 41, p. 5.) Staff agreed to delete references to Cal/OSHA in its proposed Conditions. (Ex. 74, pp. 6-7.) The Commission prefers to include Cal/OSHA review as an option, if appropriate, and has included this option in the Conditions.

Staff's testimony, provides an outline of the response time, equipment, and personnel at each station.

Worker Safety and Fire Protection Table 1
Fire Station/Fire Protection Capabilities

Station	Response Time	Equipment	Number of Firefighters
San Diego Rural Fire District Station 11 14145 Hwy 94 Jamal, CA 91935	Approximately 20 to 30 minutes	1 — Type I Engine 1 — Rescue/Light & Air 1 — Type III Brush Patrol	4-6
San Diego City Fire Station No. 43 Brown Field	Approximately 5 minutes	1 — Type I Engine 1 — 100 Foot Fire Truck (not currently staffed)	4
Donovan State Prison 444 Alta Rd. (Primary responding engine company until new station is established at Otay Mesa Rd. and Alta Rd.)	Approximately 3 to 5 minutes	1 — Type II Engine (1000 GPM)	5

Following is a general description of the response equipment listed:

- The Fire Engine is a primary response unit. It has a 600 gallon water tank, a minimum of 1,500 gallon per minute (gpm) pump, 2,400 feet of hose and a advance life support (ALS) medical response unit.
- Fire Trucks are also primary response units, and have a 500-gallon water tank, a 1,250-gpm pump, 1,000 feet of hose and an aerial ladder with stream capability of 1000 gpm.
- Brush Patrol Trucks are used primarily for fighting wild fires such as grass fires. Each truck consists of a 265-gallon water tank, 150 gpm-water pump, and comes with 4-wheel drive.
- The Light Unit is a separate vehicle and consists of a 20 kW generator and lighting capability for night operations and for use with rescue equipment on fire truck.

The nearest RFPD facility is located in Jamul at Station 11, a 20-30 minute response time. However, the RFPD is a signatory to the County of San Diego Master Mutual Aid Agreement, which entitles the district to receive aid from surrounding fire agencies. The fire station closest to the site is the City of San Diego's Fire Station No. 43 at Brown Field, with a response time of approximately five minutes. Backup fire support is also available from Fire Station 14, which has one fire engine stationed at the Donovan State Prison. The Donovan engine will provide the primary response until the RFPD opens a new station at the intersection of Otay Mesa and Alta Roads, adjacent to the site, in 2002. (Ex. 64, p. 37.)

In addition to fire response capabilities, the respondent fire stations will also need first responder HAZMAT capabilities. According to Staff, first responders at the operations level are entities that respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. (Ex. 64, p. 37.)

The RFPD asserted that the project would cause impacts to its service capabilities.⁵⁰ (Ex. 64, p. 49.) Staff was also concerned that the project would potentially contribute to cumulative impacts on fire and emergency services in the East Otay Mesa area, which is expected to grow significantly over the next 50 years. (*Id.*, at p. 39.) Under the East Otay Mesa Specific Plan, several projects are slated for construction during the same timeline indicated for construction of the OMGP. (*Ibid.*)

In mitigation, Applicant will negotiate with San Diego County and the RFPD for a funding strategy to purchase necessary equipment, to provide emergency response training, and to otherwise compensate for project-specific and

⁵⁰ Letter dated January 4, 2000 from Dave Nissan, Fire Marshall for the RFPD to Staff Analyst Terri Wallace.

cumulative impacts. (Ex. 64, p. 49.) Condition **Worker Safety-4** incorporates this compensation measure to ensure that the project's contribution to project-specific and cumulative impacts on the RFPD will be adequately mitigated.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Industrial workers are exposed to potential health and safety hazards on a daily basis.
2. To protect workers from job-related injuries and illnesses, the project owner will implement comprehensive Safety and Health Programs for both the construction and operation phases of the project, including an accident/injury prevention program, a personal protective equipment program, an emergency action plan, a fire protection and prevention plan, and other general safety procedures.
3. The project will rely on local fire protection services and onsite fire protection systems that will be approved by the San Diego County Fire Department and/or the San Diego County Rural Fire Protection District (RFPD).
4. The RFPD is responsible for providing fire protection and emergency services to the project.
5. The nearest RFPD station is located in Jamal, which is approximately 30 minutes response time to the site.
6. By virtue of the San Diego County Master Mutual Aid Agreement, the RFPD may rely on the City of San Diego Fire Station No. 43 and the Donovan Prison fire engine station, which are about 5 minutes response time to the site.
7. The RFPD expects to open a new fire station at the intersection of Otay Mesa and Alta Roads, adjacent to the site, in 2002.
8. HAZMAT response will be provided by the RFPD and the San Diego County Fire Department stations closest to the site.

9. Existing fire and emergency service resources will be adequate to meet project needs with the completion of negotiations between OMGP and the San Diego County Fire Department and/or RFPD to ascertain the fees and measures necessary to ensure adequate fire protection and emergency services.
10. With the agreement between OMGP and the San Diego County Fire Department and/or RFPD regarding appropriate mitigation, impacts to fire protection and emergency services will be insignificant.
11. Implementation of the Conditions of Certification, below, will ensure that the project conforms with all applicable laws, ordinances, regulations, and standards on industrial worker health and safety as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that implementation of Applicant's Safety and Health Programs and Fire Protection measures will reduce potential adverse impacts on the health and safety of industrial workers to levels of insignificance.

CONDITIONS OF CERTIFICATION

WORKER SAFETY-1 The project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program, containing the following:

- a construction Injury and Illness Prevention Program
- a construction Fire Protection and Prevention Plan
- a personal Protective Equipment Program

Protocol: The Construction Injury and Illness Prevention Program and the Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, if appropriate, for review and comment concerning compliance of the program with all applicable Safety Orders.

The Construction Fire Protection and Prevention Plan shall be submitted to the San Diego County Fire Department and/or the Rural Fire Protection District for review and approval.

Verification: At least 30 days prior to the start of construction, or a date agreed to by the CPM, the project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program and the Personal Protective Equipment Program, including a copy of the cover letter transmitting the

Programs to Cal/OSHA's Consultation Service, if appropriate. The project owner shall provide a letter from the San Diego County Fire Department and/or RFPD stating that they have reviewed and approved the Construction Fire Protection and Prevention Plan.

WORKER SAFETY-2 The project owner shall submit to the CPM a copy of the Project Operation Safety and Health Program containing the following:

- an Operation Injury and Illness Prevention Program
- an Emergency Action Plan
- an Operation Fire Protection Program
- a Personal Protective Equipment Program

Protocol: The Operation Injury and Illness Prevention Program, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, as appropriate, for review and comment concerning compliance of the program with all applicable Safety Orders.

The Operation Fire Protection Program and the Emergency Action Plan shall be submitted to the fire protection agency serving the project for review and approval.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operation Safety & Health Program. The document shall incorporate Cal/OSHA's Consultation Service comments, if any, regarding its review and acceptance of the specified elements of the proposed Operation Safety and Health Plan. The project owner shall also provide a letter from the San Diego County Fire Department and/or RFPD stating that they have reviewed and approved the Operation Fire Protection and Emergency Action Plan.

The project owner shall notify the CPM that the Project Operation Safety and Health Program, including all records and files on accidents and incidents, is present onsite and available for inspection.

WORKER SAFETY-3 The project owner shall submit automatic fire extinguishing system plans, fire alarm system plans, and construction plan(s) to the fire service agency serving the project for review and approval and the CPM for review and approval before beginning construction. Plans submitted to the CPM shall incorporate any modifications or recommendations submitted by the fire service agency serving the project.

Verification:At least 30 days prior to installation of underground utilities, or a date agreed to by the CPM, the project owner shall submit to the CPM for review and approval automatic fire extinguishing system plans, fire system alarm plans, and construction plan(s) that have been approved by the San Diego County Fire Department and/or RFPD.

WORKER SAFETY-4 The project owner shall reach an agreement with the fire service agency serving the project on the amount of fees and timing of payment the project owner will provide to cover project-specific and prorated cumulative impacts associated with fire protection. Included in the agreement, the project owner will identify the funds or means and timing for providing project specific emergency response training to the fire protection agency serving the project.

Verification:Not later than 30 days prior to site grading, the project owner shall provide the CPM with a copy of a fee payment agreement between the San Diego County Fire Department and/or RFPD and the project owner to compensate for project-specific and prorated cumulative impacts associated with fire protection.

D. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Otay Mesa Generating Project will create significant impacts to public health and safety resulting from the use, handling, or storage of hazardous materials at the facility. Related issues are addressed in the **Waste Management**, **Worker Safety**, and **Traffic and Transportation** portions of this Decision.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Several locational factors affect the potential for project-related hazardous materials to cause adverse impacts, including local meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors. The evidence of record incorporates these factors in the analysis of potential impacts. (Ex. 1,/5.15.2.2.3.3 et seq.; Ex. 64, pp. 71-72.)

1. Potential Impacts

Table 3.4-7, appended to Condition of Certification **HAZ-1**, lists the hazardous materials that will be used and stored onsite, including aqueous ammonia, sulfuric acid, hydrochloric acid, and cyclohexylamine (neutralizing amine). None of these materials, however, will be used or stored in excess of regulated threshold quantities under the California Accidental Release Prevention (CalARP) Program⁵¹ except for aqueous ammonia.⁵² (Ex. 1,/5.15.2.2.2.) The

⁵¹ The CalARP Program includes both federal and state programs established to prevent accidental release of regulated toxic and flammable substances. (CA Health & Safety Code,/ 25531 et seq.; Cal. Code of Regs., tit. 19,/ 2720 et seq.) Regulated substances are those stored or used in amounts exceeding threshold planning quantities (TPQs) that would require the filing of a Risk Management Plan under the CalARP program. (Ex. 1,/5.15.2.2.2.).

⁵² If the selective catalytic reduction (SCR) process is selected to control NOx emissions rather than the proposed SCONOX technology, aqueous ammonia would be used at OMGP in

other substances of concern include hydrogen for generator cooling and natural gas, which will be used in large quantities but not stored onsite. (Ex. 1, / 5.15.2.2.1.)

Hazardous substances used or stored onsite in smaller quantities, such as diesel fuel, mineral and lubricating oils, scale inhibitors, solvent, and water conditioners do not create the potential for significant off-site impacts due to their small quantities, relatively low toxicity, and/or low environmental mobility. (Ex. 64, pp. 69-70; Ex. 1, // 5.15.2.1, 5.15.2.2.4.)

a. Aqueous Ammonia

The accidental release of aqueous ammonia without proper mitigation can result in hazardous downwind concentrations of ammonia gas.⁵³ (Ex. 64, p. 72.) The nearest residence is about 1.3 miles southwest of the site and the nearest public receptor (Donovan state prison) is 2,600 feet northwest of the site. (*Ibid.*)

Applicant performed an Off-Site Consequences Analysis (OCA) to evaluate potential public health impacts in a worst case scenario resulting from an accidental release during truck unloading. (Ex. 1, / 5.15.2.2.3.) Staff considers the threshold significance level to be a one-time exposure to 75 parts per million (ppm) of ammonia gas.⁵⁴ (Ex. 64, pp. 72-73.) Applicant's OCA results for the maximum, worst case scenario (including worst case meteorological conditions) estimated that ammonia concentrations exceeding 75 ppm would be confined

quantities exceeding the reportable amounts defined in California Health and Safety Code, section 25532(j).

⁵³ The choice of aqueous ammonia significantly reduces the risk that is associated with the more hazardous anhydrous form, which is stored as a liquid gas. (Ex. 64, p. 69.)

⁵⁴ Staff's Appendix A, Table 1, replicated at the end of this section, shows the acute ammonia exposure guidelines for different sectors of the population. (Ex. 64, pp. 78-79.)

almost completely to the project site and would not affect any public receptor, including the prison northwest of the site. (Ex. 1, /5.15.2.2.3 et seq.)

Based on these modeling results, Applicant and Staff concluded that no significant off-site public health consequences would result from an accidental ammonia release. (Ex. 1, p. 5.15-13; Ex. 64, p. 74.)

The project includes several design features to reduce the likelihood and consequences of an ammonia release. Two double-walled 13,000-gallon ammonia storage tanks, providing passive containment in the event of cracking or other structural damage, will be incorporated into a combined delivery and storage facility. Delivery trucks will be unloaded inside the delivery bay, which has a sloped floor with drainage slots that facilitate the gravity flow of any spillage into an underground containment basin. The underground tank is designed to hold the entire contents of an 8,000-gallon delivery truck plus the wash water used to dilute any spills. (Ex. 1, /5.15.2.2.3.1.)

To ensure implementation of these design plans, Condition **HAZ-3** requires the project owner to provide a Safety Management Plan for ammonia deliveries. **HAZ-4** requires that the storage tanks be constructed according to industry specifications. Condition **STRUC-4** in the **Facility Design** chapter of this Decision requires compliance with seismic design specifications.

b. Natural Gas

The project requires large amounts of natural gas, which creates a risk of both fire and explosion. (Ex. 64, p. 73.) This risk will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices. (*ibid.*) The National Fire Protection Association (NFPA) Code 85A requires: 1) the use of double block and bleed valves for fast shut-off; 2) automated combustion controls; and 3) burner management systems. These

measures significantly reduce the likelihood of an explosion. Additionally, start-up procedures will require air purging of gas turbines and combustion equipment to prevent build-up of an explosive mixture. (*Ibid.*)

Natural gas will not be stored onsite; rather, it will be continuously delivered via the project's gas pipeline facilities described in the **Facility Design** section of this Decision. The new gas transmission pipelines will be designed, constructed and operated in accordance with CPUC General Order (GO) 112D. (Ex. 1, / 5.15.2.2.1.) Condition **MECH-1** ensures that construction and operation of the pipelines will comply with applicable safety requirements.

c. Hydrogen

Hydrogen will be used as a combustion turbine coolant. According to Applicant's design plans, a maximum of 70,000 cubic feet (1,500 pounds) of hydrogen may be stored onsite either in above ground tanks or in individual gas cylinders.⁵⁵ The storage facilities will be located near the turbines, away from electrical lines and other potential ignition sources. (Ex. 1, / 5.15.2.2.1.) Staff was concerned, however, that these measures would not address all potential hazards associated with the project such as flammable and explosive materials, turbine over-speed accident, or seismic events. (Ex. 64, p. 73.) Staff therefore proposed a condition to require a project-specific plan for storage and handling of hydrogen. (Ex. 64, p. 73.) Condition of Certification **HAZ-3** incorporates this proposal.

⁵⁵ Although the use and storage of hydrogen poses a fire and/or explosion risk due to its flammability, the proposed maximum quantity of hydrogen in this case does not exceed the CalARP threshold quantity of 10,000 pounds. (Ex. 1, / 5.15.2.2.2.)

2. Mitigation

Personnel working with hazardous materials will receive appropriate training to avoid and respond to accidental releases.⁵⁶ Safety equipment will be provided and several safety programs will be implemented in this regard. (Ex. 1, // 5.15.2.3.5, 5.15.3.2.1.) These programs include the Hazardous Materials Business Plan, the Risk Management Plan, and the Safety Management Plans required by Conditions **HAZ-2** and **HAZ-3**. See also, the **Worker Safety** section of this Decision.

3. Closure

The requirements for handling hazardous materials remain in effect until such materials are removed from the site regardless of closure. In the event that the project owner abandons the facility in a manner that poses a risk to surrounding populations, emergency action will be coordinated by federal, state, and local agencies to ensure that any unacceptable risk to the public is eliminated. (Ex. 64, p. 74.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Otay Mesa Generating Project will use hazardous materials during construction and operation, including aqueous ammonia, hydrogen, sulfuric acid, hydrochloric acid, cyclohexylamine (neutralizing amine), and natural gas.

⁵⁶ Onsite spill response procedures will be established and emergency response agencies will be contacted as necessary. (Ex. 1, // 5.15.2.2.5.)

2. The major public health and safety hazards associated with these hazardous materials are the accidental release of aqueous ammonia and fire and explosion from hydrogen and natural gas.
3. The project owner will submit approved Safety Management Plans for ammonia and hydrogen delivery, an approved Hazardous Materials Business Plan, and an approved Risk Management Plan prior to delivery of any hazardous materials to the site.
4. Implementation of the mitigation measures described in the evidentiary record and contained in the Conditions of Certification, below, ensures that the project will not cause significant impacts to public health and safety as the result of handling hazardous materials.
5. With implementation of the Conditions of Certification, below, the Otay Mesa Generating Project will comply with all applicable laws, ordinances, regulations, and standards related to hazardous materials management as identified in the pertinent portion of Appendix A of this Decision.

The Commission concludes, therefore, that the use of hazardous materials by the Otay Mesa Generating Project will not result in any significant adverse public health and safety impacts.

CONDITIONS OF CERTIFICATION

HAZ-1 The project owner shall not use any hazardous material in reportable quantities, as specified in Title 40, C. F.R. Part 355, Subpart J, section 355.50, not listed in Appendix B (Table 3.4-7) below, or in greater quantities than those identified by chemical name in Table 3.4-7, below, unless approved in advance by the CPM.

Verification: In the Annual Compliance Report to the CPM, the project owner shall provide a list of hazardous materials contained at the facility in reportable quantities.

HAZ-2 The project owner shall concurrently provide a Business Plan and a Risk Management Plan (RMP) to the San Diego County Department of Environmental Health (DEH) and the CPM for review. The project owner shall reflect all recommendations of the San Diego County DEH and the CPM in the final documents. Copies of the final plans, reflecting all comments, shall be provided to the CPM upon approval by the San Diego County DEH.

Verification: At least 60 days prior to handling reportable quantities of any hazardous material to the site, the project owner shall provide a copy of a final Business Plan approved by the San Diego County DEH to the CPM. At least 60 days prior to delivery of aqueous ammonia to the site, the project owner shall provide the final RMP approved by the San Diego County DEH to the CPM.

HAZ-3 If aqueous ammonia is used, the project owner shall develop and implement a Safety Management Plan for delivery of ammonia. If hydrogen is used, the project owner shall develop and implement a Safety Management Plan for delivery of hydrogen. The plans shall include procedures, protective equipment requirements, training and a checklist. The Safety Management Plan for hydrogen shall also include specifics about the storage and handling of hydrogen, including a plot plan describing the location of the storage, and of other flammable materials, measures for avoidance of areas that could be affected by a turbine over-speed accident and seismic design criteria for the hydrogen storage and handling systems.

Verification: At least 60 days prior to the delivery of aqueous ammonia and/or hydrogen to the facility, the project owner shall provide Safety Management Plans as described above to the CPM for review and approval.

HAZ-4 If aqueous ammonia is used, the ammonia storage facility shall be designed to either the ASME Pressure Vessel Code and ANSI K61.6 or to API 620. In either case, the storage tank shall be protected by a secondary containment basin capable of holding 150% of the storage volume plus the volume associated with 24 hours of rain assuming the 25-year storm.

Verification: At least 60 days prior to delivery of aqueous ammonia, the project owner shall submit final design drawings and specifications for the ammonia storage tank and secondary containment basins to the CPM for review and approval.

HAZARDOUS MATERIAL MANAGEMENT

APPENDIX A TABLE 1

Acute Ammonia Exposure Guidelines

Guideline	Responsible Authority	Applicable Exposed Group	Allowable Exposure Level	Allowable* Duration of Exposures	Potential Toxicity at Guideline Level/Intended Purpose of Guideline
DLH ²	NIOSH	Workplace standard used to identify appropriate respiratory protection.	300 ppm	30 min.	Exposure above this level requires the use of highly reliable respiratory protection and poses the risk of death, serious irreversible injury or impairment of the ability to escape.
DLH/10 ¹	EPA, NIOSH	Work place standard adjusted for general population factor of 10 for variation in sensitivity	30 ppm	30 min.	Protects nearly all segments of general population from irreversible effects
STEL ²	NIOSH	Adult healthy male workers	35 ppm	15 min. 4 times per 8 hr day	No toxicity, including avoidance of irritation
EEGL ³	NRC	Adult healthy workers, military personnel	100 ppm	Generally less than 60 min.	Significant irritation but no impact on personnel in performance of emergency work; no irreversible health effects in healthy adults. Emergency conditions one time exposure
STPEL ⁴	NRC	Most members of general population	50 ppm 75 ppm 100 ppm	60 min. 30 min. 10 min.	Significant irritation but protect nearly all segments of general population from irreversible acute or late effects. One time accidental exposure
TWA ²	NIOSH	Adult healthy male workers	25 ppm	8 hr.	No toxicity or irritation on continuous exposure for repeated 8 hr. work shifts
Guideline	Responsible Authority	Applicable Exposed Group	Allowable Exposure Level	Allowable* Duration of Exposures	Potential Toxicity at Guideline Level/Intended Purpose of Guideline
ERPG-2 ⁵	AIHA	Applicable only to emergency response planning for the general population (evacuation) (not intended as exposure criteria) (see preface attached)	200 ppm	60 min.	Exposures above this level entail** unacceptable risk of irreversible effects in healthy adult members of the general population (no safety margin)

1) EPA 1987; 2) NIOSH 1994; 3) NRC 1985; 4) NRC 1972; and 5) AIHA 1989

The NRC 1979, WHO 1986, and Henderson and Haggard 1943 all conclude that available data confirm the direct relationship to increases in effect with both increased exposure and increased exposure duration.

** The NRC 1979 describes a study involving young animals which suggests greater sensitivity to acute exposure in young animals. The (WHO 1986) warns that the young, elderly, asthmatics, those with bronchitis and those that exercise should also be considered at increased risk based on their demonstrated greater susceptibility to other non-specific irritants.

APPENDIX B

TABLE 3.4-7

ANTICIPATED HAZARDOUS CHEMICAL USAGE AND STORAGE¹

Material²	Purpose	Usage/Day	Maximum Amount Stored	Storage Type
Neutralizing amine solution	Feedwater Ph control	5 lb	800 gal	Portable vessel
Oxygen scavenger solution	Feedwater oxygen control	2.5 lb	800 gal	Portable vessel
Di-, tri-sodium phosphate solution	Boiler water pH/scale control	5 lb	800 gal	Portable vessel
Hydrochloric acid HCl	Chemical cleaning of HRSG	As needed	Temporary only	Portable vessel
Ammonium bifluoride NH ₄ HF ₂	Chemical cleaning of HRSG	As needed	Temporary only	Portable vessel
Citric acid	Chemical cleaning of HRSG, feedwater systems	As needed	Temporary only	Portable vessel
EDTA chelant	Chemical cleaning of HRSG, feedwater systems	As needed	Temporary only	Portable vessel
Sodium nitrite NaNO ₂	Chemical cleaning of HRSG	As needed	Temporary only	Portable vessel
Diesel fuel oil	Diesel fire pump	0	100 gal	Tank, UL C.S.
Sulfuric acid for station batteries	Electrical/control building	0	600 gal	Battery
	Combustion turbine	0	732 gal	Battery
	Miscellaneous	0	100 gal	Battery
Hydrogen	Generator cooling	800 cu ft	70,000 cu ft	Tank, C.S.

¹ All numbers are approximate.

² Aqueous ammonia (19.5% solution) will be used if the SCR system alternative is used in place of SCONOX.TM

E. WASTE MANAGEMENT

The project will generate hazardous and nonhazardous wastes during construction and operation. This section reviews the Applicant's waste management plans for reducing the risks and environmental impacts associated with the handling, storage, and disposal of project-related wastes.⁵⁷

Federal and state laws regulate the management of hazardous waste. Hazardous waste generators must obtain EPA identification numbers, and use only permitted treatment, storage, and disposal facilities. Registered hazardous waste transporters must handle the transfer of hazardous waste to disposal facilities.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site Excavation

Applicant commissioned a Phase I Environmental Site Assessment (ESA) of the site in 1997, using methods prescribed by the American Society for Testing and Materials (ASTM). An additional site reconnaissance was conducted in 1999 to identify any changes in site usage and potential sources of hazardous substances. The ESA and subsequent site reconnaissance revealed no discernible evidence of soil contamination or any likelihood that contamination would be encountered during excavation activities. (Ex. 1, /5.14.1.2.)

In the unlikely event that contaminated soil is encountered during excavation, the soil will be segregated, sampled, and tested to determine the appropriate disposal or treatment in consultation with the San Diego County Department of Environmental

⁵⁷ The disposal of project wastewater, which requires a National Pollutant Discharge Elimination System (NPDES) permit, is discussed in the **Soil and Water Resources** section.

Health (DEH). If underground storage facilities are located during excavation, the project owner will consult with DEH regarding removal of such facilities and any necessary remediation. (Ex. 1, / 5.14.2.3.1.) Condition **WASTE-4** incorporates this plan.⁵⁸

2. Construction

a. Nonhazardous

During construction, the primary waste stream will be solid, nonhazardous materials such as paper, wood, glass, scrap metal, plastics from packaging, waste lumber, insulation, and nonhazardous chemical containers. These wastes will be recycled, where practical, with the remainder deposited at a Class III (nonhazardous) landfill. (Ex. 1, / 5.14.2.1.1) Waste metal generated during construction includes steel from welding/cutting, packing materials, and empty chemical containers; aluminum wastes from packing materials; and electrical wiring. Metals that cannot be salvaged/recycled will be removed for disposal at a Class III landfill. (*Ibid.*) Applicant's Table 3.4-5, replicated below, lists the estimated amounts of the nonhazardous waste stream and proposed management methods.

b. Hazardous Wastes

Hazardous wastes generated during construction will include used oil and grease, paint, used batteries, spent solvent, welding materials, and chemical cleaning solutions. All such hazardous wastes will be recycled with the remainder removed on a regular basis by a certified waste handling contractor for disposal at a licensed Class I hazardous waste treatment or disposal facility. (Ex. 1, / 5.14.2.3.2.) Applicant's Table 3.4-6,

⁵⁸ Applicant requested that Staff delete a proposed condition regarding contaminated soils. (Ex. 41, p. 6.) The Commission rejects that request and has added Condition **WASTE-4** to ensure that appropriate

replicated below, lists the estimated amounts of the hazardous waste stream and proposed management methods.

3. Operation

a. Nonhazardous

Nonhazardous waste generated during project operation includes trash, office wastes, empty containers, broken or used parts, used packaging and used filters. Nonhazardous solid waste will be recycled with the remainder deposited at a Class III landfill, most likely the Otay landfill. (Ex. 1,/5.14.2.1.2.) See, Table 3.4-5, below.

b. Hazardous Waste

Hazardous wastes include spent air pollution control catalysts, used oil and filters, used cleaning solvents, used oil absorbent, and hydraulic fluids, which if not recycled will be removed and transported by a certified hauler to a Class I landfill. (Ex. 1,/5.14.2.3.3.) Periodic turbine cleaning will generate contaminated wash water that will be analyzed for appropriate disposal. HRSG cleaning solutions will be removed by the licensed contractor conducting the cleaning. (*Ibid.*) See, Table 3.4-6, below.

4. Potential Impacts on Waste Disposal Facilities

Applicant s Table 5.14-1, replicated below, shows three local landfills within 30 miles of the site that accept nonhazardous solid wastes.

action is taken in the event that contaminated soils or underground storage facilities are uncovered.

TABLE 3.4-5

**SUMMARY OF CONSTRUCTION WASTE STREAMS
AND MANAGEMENT METHODS¹**

Waste Stream	Waste Classification	Amount	Treatment
Scrap wood, steel, glass, plastic, paper, calcium silicate insulation, mineral wood insulation	Nonhazardous	20-40 cu yd/wk	Waste disposal facility
Empty hazardous material containers — drums	Recyclable Hazardous	1 cu yd/wk	Recondition or recycle
Used and waste lube oil during CT and ST Lube Oil Flushes	Recyclable Hazardous	<55 gallons per flush period, approximately 3 weeks	Recycle
Oil absorbent mats from CT and ST lube oil flushes and normal construction	Nonhazardous	Mats per month, as needed	Waste disposal facility or laundry (permitted to wash rags)
Oily rags generated during normal construction activities lube oil flushes	Nonhazardous	3-4 55 gallon drums a month	Waste disposal facility or laundry (permitted to wash rags)
Spent batteries; lead acid	Hazardous	2 batteries/year	Recycle
Spent batteries; alkaline type, Sizes AAA, AA, C and D	Hazardous Recyclable	60 batteries/month	Waste disposal facility
HRSG and Preboiler Piping cleaning waste, chelant type solution	Hazardous	200,000 gal per cleaning	Hazardous waste disposal facility or recycle
Used oil from oil/water separator	Recyclable Hazardous ²		Recycle
Sanitary Waste-Portable Chemical Toilets and Construction Office Holding Tanks	Sanitary	400 gpd	Pumped by licensed contractors and transported to sanitary water treatment plant

¹ Note: All numbers are approximate.

² Under California regulations.

TABLE 3.4-6
OPERATING WASTE STREAMS AND MANAGEMENT METHODS

Waste Stream	Waste Classification	Amount¹	Treatment
Used hydraulic fluids, oils, grease, oily filters	Recyclable Hazardous	<5 gallons/day	Recycle
Spent batteries; lead acid	Recyclable Hazardous	2 batteries/year	Recycle
SCONOX catalyst wash (potassium carbonate solution)	Non-hazardous	12,000 gallons per wash	Waste disposal facility after neutralization or recycle
Activated carbon and sand, filter media	Non-hazardous	5 cu ft/year	Waste disposal facility
Used oil from oil/water separator	Recyclable Hazardous ²	50 gallons/year	Recycle
Oily rags	Nonhazardous	55 gallons/2 months	Laundry (permitted to wash oil rags)
CTG used air filters	Non-hazardous	1,000 filters	Recycle
CTG water wash	Non-hazardous	7,200 gallons/year	Waste disposal facility
HRSG periodic operational chemical cleaning	Hazardous	50,000 gallons per HRSG cleaning (Approx. 2 cleanings every 5 years)	Hazardous waste disposal facility (by licensed subcontractors)

¹ Note: All numbers are approximate.

² Under California Regulation

TABLE 5.14-1
NON-HAZARDOUS SOLID WASTE DISPOSAL SITES¹

Disposal Site Name	Location in San Diego County	Remaining Capacity (cu yd)	Annual Usage (cu yd)	Anticipated Year of Closure	Approximate Distance from Site (miles)
Otay Landfill ²	Otay Valley Road and Maxwell Road	18,613,888	511,140	2031	6.1
Miramar Landfill	North of Highway 52 at Convoy Street	34,296,000	2,027,376	2012	22.6
Sycamore Canyon Landfill	North of Highway 52 at Mast Boulevard	28,796,645	468,936	2056	19.5
Total		81,706,533	3,007,452	--	--

¹ Source: County of San Diego Integrated Waste Management Plan, September 1996.

² The Draft Environmental Impact Report for the Otay Landfill Development and Expansion Plan, released for public comment on February 18, 1999, would increase the remaining capacity of Otay Landfill to 48,200,000 cubic yards.

Most of the nonhazardous waste produced during project construction and operation will be recyclable. According to Applicant, non-recyclable project wastes will amount to less than a one hundredth of one percent increase relative to current disposal volumes at the Otay landfill and a negligible increase as compared to the combined current disposal volumes at the other landfills near the site. (Ex. 1, / 5.14.2.1.2.) Staff's analysis concurred that disposal of project-related wastes will not have any significant direct or cumulative impacts on the capacities of local Class III landfill facilities. (Ex. 64, p. 86.)

Three Class I landfills in California, i.e., Chemical Waste Management Landfill in King's County, Laidlaw Environmental Landfill in Kern County, and Laidlaw Environmental Landfill in Imperial County, have permits to accept hazardous waste. In total, there is in excess of 20 million cubic yards of remaining hazardous waste disposal capacity at these landfills, reflecting a total operational life of 90 years. (Ex. 64, p. 86.) Staff concluded that the amount of project-related hazardous waste is less than one percent of existing capacity and will not significantly impact the capacity or remaining life of any of California's Class I landfills. (*Ibid.*)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The project will generate hazardous and nonhazardous wastes during construction and operation.
2. Applicant's Phase I Environmental Site Assessment and subsequent site reconnaissance revealed no contaminated soils or underground storage.
3. The project owner will implement a soil sampling and remediation plan if contaminated soil or underground storage is uncovered during excavation and construction.

4. Under OMGP's waste management plan, the project will recycle hazardous and nonhazardous wastes to the extent possible and in compliance with applicable law.
5. Hazardous wastes that cannot be recycled, will be transported by registered hazardous waste transporters to an appropriate Class I landfill.
6. Nonhazardous wastes that cannot be recycled will be deposited at Class III landfills in San Diego County.
7. Disposal of project wastes will not result in any significant direct or cumulative impacts to existing waste disposal facilities.
8. The Conditions of Certification, below, and the waste management practices described in the evidentiary record reduce potential impacts to insignificant levels and ensure that project wastes are handled in an environmentally safe manner.

The Commission therefore concludes that the management of project wastes will comply with all applicable laws, ordinances, regulations, and standards related to waste management as identified in the pertinent portion of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner, or its designee shall obtain a hazardous waste generator identification number from the U.S. Environmental Protection Agency (USEPA) prior to generating any hazardous waste.

Verification: The project owner shall keep its copy of the identification number on file at the project site and notify the CPM via the monthly compliance report of its receipt.

WASTE-2 Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator that contracts with the project owner to haul or dispose project-related waste materials.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action.

WASTE-3 Prior to the start of both construction and operation, the project owner shall prepare and submit to the CPM, for review and comment, a waste management plan for

all wastes generated during construction and operation of the facility, respectively. The plans shall contain, at a minimum, the following:

- A description of all expected waste streams, including projections of frequency, amounts expected, hazard classifications; and
- Applicable waste management methods, including treatment methods, treatment facilities, waste classification procedures, transportation methods, disposal requirements, disposal facility locations, and recycling and waste minimization/reduction plans.

Verification: No less than 60 days prior to the start of rough grading, the project owner shall submit the construction waste management plan to the CPM for review. The operation waste management plan shall be submitted no less than 60 days prior to the start of project operation. The project owner shall submit any required revisions within 30 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year.

WASTE-4 If potentially contaminated soil or underground storage is unearthed during excavation at either the proposed site or linear facilities, the project owner shall segregate the area of concern, implement testing, and identify appropriate management protocol in consultation with the San Diego County Department of Environmental Health (DEH).

Verification: The project owner shall notify the CPM in writing within 5 days of any consultation with the San Diego County DEH regarding the discovery of contaminated soil or underground storage onsite or along the linear alignments, and indicate whether any substantive issues have been raised.

VII. ENVIRONMENTAL ASSESSMENT

Under its statutory mandate, the Commission must evaluate a project's potential effect upon the environment. The Commission reviews the specific topics of biological resources, soil and water resources, cultural resources, and geological/paleontological resources to determine whether project-related activities will result in adverse impacts to the natural and human environment.

A. BIOLOGICAL RESOURCES

The Commission must consider the potential impacts of project-related activities on biological resources, including state and federally listed species, species of special concern, wetlands, and other topics of critical biological interest such as unique habitats. The following review describes the biological resources of the project site and ancillary facilities, assesses the potential for impacts on biological resources, and determines the adequacy of proposed mitigation measures to ensure compliance with all applicable laws, ordinances, regulations, and standards.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is located in the eastern portion of Otay Mesa, which includes agricultural uses as well as industrial and urban development. (Ex. 64, p. 223.) Many sensitive species occur in the region as indicated in Table 1, below, replicated from Staff's testimony.

The evidentiary record was particularly focused on the Otay tar plant, the California gnat catcher, and the quino checkerspot butterfly, which are federally and state listed endangered and threatened species. (Ex. 63; 11/20/00 RT 20.)

BIOLOGICAL RESOURCES Table 1

SENSITIVE SPECIES

Sensitive Plants	Status*
Ashy spike-moss (<i>Selaginella cinerascens</i>)	CNPS List 4
California adder s tongue (<i>Ophioglossum californicum</i>)	CNPS List 4
California adolphia (<i>Adolphia californica</i>)	CNPS List 2
California Orcutt grass (<i>Orcuttia californica</i>)	FE/CE/List 1B
Cleveland s bush monkeyflower (<i>Mimulus clevelandii</i>)	CNPS List 4
Coulter s matilija poppy (<i>Romneya coulteri</i>)	CNPS List 4
Deane s milk-vetch (<i>Astragalus deanei</i>)	CNPS List 1B
Delicate clarkia (<i>Clarkia delicata</i>)	CNPS List 2
Dense reed grass (<i>Calamagrostis densa</i>)	CNPS List 4
Dunn s mariposa lily (<i>Calochortus dunnii</i>)	CR/List 1B
Felt-leaved monardella (<i>Monardella hypoleuca lanata</i>)	CNPS List 1B
Fish s milkwort (<i>Polygala cornuta</i> ssp. <i>fishiae</i>)	CNPS List 4
Gander s pitcher sage (<i>Lepechinia ganderi</i>)	CNPS List 1B
Mexican flannelbush (<i>Fremontodendron mexicanum</i>)	CR/List 1B
Munz s sage (<i>Salvia munzii</i>)	CNPS List 2
Nuttall s scrub oak (<i>Quercus dumosa</i>)	None
Orcutt s bird s-beak (<i>Cordylanthus orcuttianus</i>)	CNPS List 2
Orcutt s brodiaea (<i>Brodiaea orcuttii</i>)	CNPS List 1B
Otay manzanita (<i>Arctostaphylos otayensis</i>)	CNPS List 1B
Otay Mesa mint (<i>Pogogyne nudiuscula</i>)	FE/CE/List 1B
Otay Mountain lotus (<i>Lotus crassifolius</i> var. <i>otayensis</i>)	CNPS List 1B
Otay tarplant (<i>Hemizonia conjugens</i>)	FT/CE/List 1B
Palmer s goldenbush (<i>Ericameria palmeri</i> ssp. <i>palmeri</i>)	CNPS List 2
Palmer s grapplinghook (<i>Harpagonella palmeri</i> var. <i>palmeri</i>)	CNPS List 2
Payson s jewelflower (<i>Caulanthus simulans</i>)	CNPS List 4
Pride-of-California (<i>Lathyrus splendens</i>)	CNPS List 4
Prostrate navarretia (<i>Navarretia fossalis</i>)	CNPS List 1B
Rush-like bristleweed (<i>Haplopappus junceus</i>)	CNPS List 4
San Diego ambrosia (<i>Ambrosia pumila</i>)	CNPS List 1B
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	CNPS List 2
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	FE/CE/List 1B
San Diego County needlegrass (<i>Achnatherum diegoense</i>)	CNPS List 2
San Diego goldenstar (<i>Muilla clevelandii</i>)	CNPS List 1B
San Diego marsh elder (<i>Iva hayesiana</i>)	CNPS List 2
San Diego sagewort (<i>Artemisia palmeri</i>)	CNPS List 2
San Diego sunflower (<i>Viguiera laciniata</i>)	CNPS List 4
San Diego thornmint (<i>Acanthomintha ilicifolia</i>)	CE/List 1B
San Miguel savory (<i>Calamintha chandleri</i>)	CNPS List 4
Slender-pod jewelflower (<i>Caulanthus stenocarpus</i>)	CR/List 1B
Small-leaved rose (<i>Rosa minutifolia</i>)	CE/List 1B
Snake cholla (<i>Opuntia parryi</i> var. <i>serpentina</i>)	CNPS List 1B
Southern mountain misery (<i>Chamaebatia australis</i>)	CNPS List 4
Southwestern spiny rush (<i>Juncus acutus</i> ssp. <i>leopoldii</i>)	CNPS List 4
Summer holly (<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>)	CNPS List 1B
Tecate cypress (<i>Cupressus forbesii</i>)	CNPS List 1B
Variegated dudleya (<i>Dudleya variegata</i>)	CNPS List 4
Velvet cactus (<i>Bergerocactus emoryi</i>)	CNPS List 2
Western dichondra (<i>Dichondra occidentalis</i>)	CNPS List 4
<u>Willow monardella (<i>Monardella linoides</i> ssp. <i>viminea</i>)</u>	<u>FE/CE/List 1B</u>

CNPS = California Native Plant Society (CNPS 1995) — CNPS List 1B (Rare and endangered in California; CNPS List 2 (Rare in California, More Common Elsewhere); CNPS List 4 (Watch List); CR = State listed Rare; CE = State listed Endangered; FE = Federal listed Endangered; FT = Federal listed Threatened.

(Source: Ex. 64, p. 224.)

Sensitive Wildlife	Status*
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	FE
San Diego fairy shrimp (<i>Branchinecta sandiegensis</i>)	FE
Arroyo toad (<i>Bufo microscaphus californicus</i>)	FE/CSC
Coast patchnose snake (<i>Salvadora hexalepis virgulata</i>)	CSC
Coronado Island skink (<i>Eumeces skiltonianus interparietalis</i>)	CSC
Belding s orangethroat whiptail (<i>Cnemidophorus hyperythrus beldingi</i>)	CSC
San Diego horned lizard (<i>Phrynosoma coronatum blainvillii</i>)	CSC
Silvery legless lizard (<i>Anniella pulchra pulchra</i>)	CSC
Southwestern pond turtle (<i>Clemmys marmorata pallida</i>)	CSC
Western spadefoot toad (<i>Spea hammondi</i>)	CSC
Burrowing owl (<i>Athene cunicularia</i>)	CSC
California horned lark (<i>Eremophila alpestris actia</i>)	CSC
Coastal cactus wren (<i>Campylorhynchus brunneicapillus sandiegoense</i>)	CSC
Coastal California gnatcatcher (<i>Poliophtila californica californica</i>)	FT/CSC
Cooper s hawk (<i>Accipiter cooperii</i>)	CSC
Ferruginous hawk (<i>Buteo regalis</i>)	CSC
Golden eagle (<i>Aquila chrysaetos canadensis</i>)	CSC
Grasshopper sparrow (<i>Ammodramus savannarum perpallidus</i>)	CSC
Least Bell s vireo (<i>Vireo bellii pusillus</i>)	FE/CE
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSC
Long-eared owl (<i>Asio otus</i>)	CSC
Long-billed curlew (<i>Numenius americanus</i>)	CSC
Northern harrier (<i>Circus cyaneus</i>)	CSC
Prairie falcon (<i>Falco mexicanus</i>)	CSC
So. Calif. rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	CSC
Short-eared owl (<i>Asio flammeus</i>)	CSC
Tri-colored blackbird (<i>Agelaius tricolor</i>)	CSC
Vaux s swift (<i>Chaetura vauxi</i>)	CSC
White-tailed kite (<i>Elanus peucurus</i>)	CSC
San Diego woodrat (<i>Neotoma lepida intermedia</i>)	CSC
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	CSC
San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	CSC
<u>Southern grasshopper mouse (<i>Onychomys torridus ramona</i>)</u>	<u>CSC</u>
* FE = Federal listed Endangered; FT = Federal listed Threatened; CE = State listed Endangered; CSC = California Species of Special Concern. (Source: Ex. 64, p. 225.)	

1. Potential Impacts

According to Staff, construction of the power plant, power plant access road, and wastewater discharge pipeline will result in permanent loss of habitat. Construction of the potable water supply pipeline and the gas supply pipelines will result in temporary habitat impacts. This temporary and permanent loss of habitat could affect a variety of state and federally listed species and, therefore, habitat compensation will be required. (Ex. 64, p. 228.)

Reconductoring of the existing SDG&E Tijuana-Miguel 230 kV transmission line will result in temporary disturbance to sensitive species habitat. The reconductoring work will be completed by SDG&E in accordance with SDG&E's Subregional Natural Communities Conservation Plan, which establishes certain protocols for avoiding and/or minimizing impacts to state and federally listed and other sensitive species.⁵⁹ (Ex. 16; Ex. 64, p. 228.)

Table 2, below, replicated from Staff's testimony, provides a complete accounting of the habitat acreage impacts associated with all portions of the proposed project. (See also, Ex. 53.)

**BIOLOGICAL RESOURCES — Table 2
PROJECT COMPONENT HABITAT ACREAGE IMPACTS**

Project Component	<u>Permanent</u> <u>Acreage Impacts</u>	<u>Temporary</u> <u>Acreage Impacts</u>	<u>Impact</u> <u>Totals</u>
Power plant	46.0		46.0
Transmission line reconductoring	0.2	12.3	12.5*
New transmission line loop only	0.02	1.5	1.5
Gas Line Route 2A		0.0**	
Gas Line Route 2B		8.3	8.3
Potable Water Line (Route 3)		2.1	2.1
Wastewater Line 4 (Proposed)		12.0	12.0
Wastewater Line 4A (Alternate)	1.5	14.1	15.6
Access Roads 5 & 5A	3.4		3.4

* This temporary acreage impact will be addressed by SDG&E, in accordance with their Subregional Natural Communities Conservation Plan during the reconductoring work.

** To be constructed in an existing road; thus, no acreage impacts are anticipated.

(Source: Ex. 64, p. 229; Ex. 53.)

2. Mitigation Measures

Staff and Applicant developed a mitigation strategy to avoid impacts to sensitive species, where possible, and to compensate for temporary and permanent loss of sensitive species habitats. The mitigation measures are consistent with San

⁵⁹ The current Subregional Natural Communities Conservation Plan, adopted in 1995, does not address the quino checkerspot butterfly since this species was not federally listed until 1997. According to Staff, SDG&E filed an amendment in 1999 to include the quino checkerspot butterfly in a revised conservation plan. (Ex. 64, p. 228.)

Diego County's Multiple Species Conservation Program (MSCP) and the East Otay Mesa Specific Plan.⁶⁰

a. Avoidance measures

Avoidance measures during the pre-construction phase include in-season surveys for sensitive biological resources. Sensitive resources near construction areas will be marked and the project owner will implement a worker environmental awareness program. Temporary construction disturbance areas will be allowed to naturally revegetate with pre-disturbance species. (Ex. 1, / 5.6.3.1; Ex. 64, p. 231.)

Best management practices for pipeline construction will be implemented to ensure that groundwater movement from upland habitats to seep areas in the drainage within Johnson Canyon is not permanently disrupted. A monitoring program will be implemented after construction to determine if measures have been adequate and to implement corrective measures, if necessary, to restore the groundwater seeps to pre-construction conditions. (Ex. 1, // 5.6.1.1.6, 5.6.3.1; Ex. 64, p. 231; see also, Ex. 96, pp. 3-4.)

Applicant realigned gas pipeline Route 2B to avoid impacting a stock pond which may contain Riverside fairy shrimp, a federally listed species. The realigned Route 2B locates the pipeline within an existing road, so that temporary impacts will be significantly reduced. (11/20/00 RT 32; Ex. 64, p. 231; see also, Ex. 96, p. 3.)

⁶⁰ The MSCP establishes conditions under which the County may obtain long-term take authorization from the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). (Ex. 7; Ex. 64, p. 223.) The East Otay Mesa Specific Plan assigns a G Designator to sensitive habitat areas that are subject to the Sensitive Resources Area Regulations of the County's Biological Mitigation Ordinance. Portions of the power plant site, the 230 kV connection to the existing Miguel-Tijuana transmission line, and gas pipeline Route 2B are within G Designator areas, requiring a Resource Conservation Plan. (*Ibid.*) Applicant has included the equivalent of a Resource Conservation Plan in the project's Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). (*Ibid.*; see, Ex. 62; Condition **BIO-9**.)

b. Habitat Compensation for Direct Impacts

Habitat compensation ratios, established by the MSCP and the County's Biological Mitigation Ordinance (BMO), vary depending on the type of habitat affected. (Ex. 64, pp. 231-232.) The MSCP identifies different levels of habitat by Tier designations. (Exs. 7 and 54.) Tables 3, 5, and 6, below, based on the testimony of Staff and Applicant, indicate the total acreage requiring off-site habitat compensation and the commensurate compensation ratios.⁶¹

**BIOLOGICAL RESOURCES — Table 3
HABITAT (ACREAGE) IMPACTS CALCULATIONS**

<u>PROJECT COMPONENTS</u>	- <u>HABITAT TYPES</u>			
	<u>Tier II</u> <i>Diegan Coastal Sage Scrub</i>	<u>Tier II</u> <i>Disturbed Diegan Coastal Sage Scrub</i>	<u>Tier III</u> <i>Non-native Grassland</i>	
Route 2A gas pipeline	0 acres	0 acres	0 acres*	
Route 2B gas pipeline			5.4 acres	
Route 4A wastewater line	0.1 acre	0.3 acre	11.2 acres	
Power plant			46.0 acres	
Transmission line loop only	0.7 acres		0.8 acre	
<u>Routes 3/5/5A, access roads</u>			<u>0.5 acre</u>	
<i>SUBTOTALS</i>	<i>0.8 acres</i>	<i>+</i>	<i>0.3 acres</i>	<i>+</i>
				<i>63.5 acres</i>
<i>ACREAGE IMPACTS GRAND TOTAL</i>	<i>64.6 acres</i>			

* All work will be completed within existing roads.
(Source: Ex. 54: Attachment A; Ex. 64, p. 232.)

[Table 4 intentionally omitted.]

**BIOLOGICAL RESOURCES — Table 5
HABITAT COMPENSATION RATIOS**

<u>HABITAT TYPES</u>	<u>COMPENSATION RATIO</u>
Diegan Coastal Sage Scrub	1.0 to 1
Disturbed Diegan Coastal Sage Scrub	1.0 to 1
Non-native grassland	0.5 to 1
Tamarisk scrub	None
Disturbed habitat	None
Agriculture	None
<u>Urban development</u>	<u>None</u>

(Source: Ex. 54: Attachment A; Ex. 64, p. 233.)

⁶¹ Habitat impact calculations are based upon the following assumptions: 1) the entire power plant site (46 acres) will be used, 2) Routes 2A and 2B gas pipelines and Route 4A wastewater line will be constructed, and 3) the potable water line will be located in the area disturbed by construction of access roads.

Applying the compensation ratios to the expected acreage loss results in the following compensation requirements.

**BIOLOGICAL RESOURCES — Table 6
HABITAT COMPENSATION REQUIREMENTS**

HABITAT TYPES	ACREAGE IMPACTS	COMPENSATION RATIOS	COMPENSATION REQUIREMENTS
Diegan Coastal Sage Scrub	0.8 acres	1.0 to 1	0.8 acres
Disturbed Diegan Coastal Sage	0.3 acres	1.0 to 1	0.3 acres
Non-native grassland	63.5 acres	0.5 to 1	31.8 acres
Total habitat (acreage) compensation requirement			32.9 acres

(Source: Ex. 54: Attachment A; Ex. 64, p. 233.)

Applicant must provide at least 32.9 acres of habitat compensation. Using the assumptions shown below, Applicant agreed to pay \$320,434 to purchase 35.9 acres of habitat at the O Neal Canyon Land Bank. (Ex. 54, pp. 1-2; see also, Ex. 46.) The acreage will be transferred in fee title to the Environmental Trust (TET) or another suitable land manager for perpetual management. (*Ibid.*)

Habitat Compensation Assumptions

Habitat category	Acres	Cost	Endowment	Initial fee	Total	Grand Total
Tier III	31.8	\$8,000	\$ 675	\$ 140	\$ 8,815	\$280,317
Tier II	1.1	8,000	675	140	8,815	9,679
Quino butterfly*	3.0	8,000	2,000	140	10,140	30,420
TOTALS	35.9					\$320,434

*Although there are no established compensation ratios for impacts to quino checkerspot habitat, Applicant offered 3.0 acres. (Source: Ex. 54; Ex. 64, pp. 233-234.)

c. Endowment for Quino Checkerspot Butterfly Research

The quino checkerspot butterfly are found east and south of the power plant site near the base of the San Ysidro Mountains. Both Staff and Applicant were concerned that project NO_x emissions, which are converted in the atmosphere to nitrates and nitrites, will be deposited on the hillsides east of the site due to prevailing westerly winds. Since the loamy soils on the hills are nitrogen poor, nitrogen deposits may promote the growth of aggressive, non-native plants that

would compete with the native plantain (*Plantago erecta*), which the butterfly larvae feed upon early in their life cycles. (Ex. 64, p. 229; Ex. 44: Attachment B.)

The USFWS has identified approximately 60 acres of quino checkerspot habitat located northeast of the site in the vicinity of the O Neal Canyon Land Bank that may be affected by the OMGP emissions. (Ex. 106, pp. 17-19.) To mitigate potential loss of quino checkerspot habitat, Applicant will establish a perpetual endowment to provide funds for quino checkerspot butterfly research and habitat management that would include periodic weeding of non-native plants. (Ex. 54, p. 3; 11/20/00 RT 12-14.)

To calculate the funds necessary for the endowment, Applicant assumed that 1) weeding in the area would cost approximately \$1,000/acre, and 2) the 60-acre habitat area would be weeded every four years. (Ex. 54, p. 3.) The cost would therefore be \$60,000 every four years (\$1000/acre x 60 acres), or an average of \$15,000/year (2000 dollars). Applicant will provide \$300,000 ($\$300,000 \times 0.05$ [payout average] = \$15,000) to the Center for Natural Lands Management (CNLM) plus a one-time fee of \$5,016 for a total of \$305,016 to establish the endowment. (*Ibid.*)

d. Compliance with Federal and State Permit Requirements

For the minor stream crossing in Johnson Canyon, the project owner must obtain a Nationwide Section 404 permit from the U.S. Corps of Engineers for compliance with the federal Clean Water Act. (Condition **BIO-8**; see also Ex. 96.) To address OMGP's temporary impacts on several streams during project construction, the project owner will also provide a Section 1603 Streambed Alteration Agreement from the California Department of Fish and Game. (Condition **BIO-9**, No. 13; Ex. 64, p. 238; Ex. 96.) In addition, the project owner must submit a Section 401 State Clean Water Act certification from the San Diego Valley Regional Water Quality Control Board. (Condition **BIO-8**, Ex. 96.)

Condition **BIO-9** requires OMGP to provide a final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) prior to the start of any project-related ground disturbance activities. The BRMIMP will incorporate all mitigation, monitoring, and compliance conditions identified in this Decision. The project owner is also required to obtain an Endangered Species Act, Section 7 Biological Opinion from the USFWS that will indicate which protected species are likely or not likely to be affected by the project. (Condition **BIO-6**; Ex. 106.) Further, the project owner must obtain a Consistency Determination from the California Department of Fish and Game (CDFG). (Condition **BIO-7**; Ex. 107.)

Additional mitigation measures include the hiring of a designated Biologist to monitor compliance efforts, including avoidance of sensitive biological resources. (Conditions **BIO-1**, **BIO-2**, and **BIO-3**.) OMGP will also implement an environmental awareness program for construction workers and permanent staff and have the authority to halt construction to protect sensitive habitat, if necessary. (Condition **BIO-4** and **BIO-5**.)

3. Cumulative Impacts

Direct, indirect, and cumulative impacts to sensitive species and the loss of habitat are critical issues in the San Diego region since there are many sensitive species known to occur in the area. Consequently, federal, state, and county agencies have developed regional and subregional strategies to minimize sensitive species impacts. The MSCP is a prime example of this regional species protection strategy. One of the principal strategies is the requirement that developers provide habitat compensation for anticipated habitat losses. The OMGP will provide suitable habitat compensation, in accordance with the MSCP, for the project's temporary and permanent habitat impacts. Habitat compensation will occur at a habitat mitigation bank located near the site. By doing so, OMGP will address cumulative impacts concerns by providing habitat compensation in accordance with the regional conservation plans established for

San Diego County that are designed to account for anticipated cumulative effects of development. (Ex. 64, pp. 229-230.)

4. Closure

Condition **BIO-12** requires OMGP to include measures to address any potential impacts on biological resources in the planned permanent or unexpected permanent closure plan.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we make the following findings and conclusions:

1. Many sensitive species occur in the Otay Mesa region of San Diego County.
2. Loss of sensitive species habitat in the region is the primary concern of the local, state, and federal regulatory agencies that monitor biological resources.
3. The San Diego County Multiple Species Conservation Program (MSCP), the Biological Mitigation Ordinance, and the East Otay Mesa Specific Plan identify sensitive habitat areas in the site vicinity, and establish compensation ratios and mitigation requirements.
4. The regulatory agencies were particularly concerned about potential impacts to the Otay tar plant, the California gnat catcher, and the quino checkerspot butterfly, which are federally and state listed endangered and threatened species.
5. Project-related impacts will result in the loss of 1.1 acres of Tier II habitat and 63.5 acres of Tier III habitat, as defined by the MSCP.
6. Habitat compensation ratios are 1:1 for Tier II habitat losses and 0.5:1 for Tier III habitat losses (1.1 Tier II acres + 31.8 [63.5 x 0.5] Tier III acres) resulting in a total habitat compensation requirement of at least 32.7 acres.

7. The project owner will provide habitat compensation funds to The Environmental Trust (TET) in the amount of 320,434 to purchase 35.9 acres of habitat at the O Neal Canyon Land Bank.
8. The project owner will provide \$305,016 to establish a perpetual endowment to provide funds for quino checkerspot butterfly research and habitat management.
9. OMGP s habitat compensation package is consistent with the U.S. Fish and Wildlife Service (USFWS) requirements for impacts to listed species habitat.
10. To the extent feasible, the project owner will implement measures to avoid sensitive biological resources.
11. Prior to the start of any project-related ground disturbance activities, the project owner will provide a Section 7 Biological Opinion from the USFWS; a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers; a Streambed Alteration Agreement from the California Department of Fish and Game; and a Section 401 certification from the San Diego Regional Water Quality Control Board to ensure compliance with local, state, and federal law.
12. OMGP s potential direct, indirect, and cumulative impacts will be adequately mitigated by the measures specified in the Conditions of Certification listed below.
13. With implementation of the mitigation measures identified in the evidentiary record and the Conditions of Certification list below, OMGP will conform with all applicable laws, ordinances, regulations, and standards related to biological resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that implementation of the Conditions of Certification will ensure the project conforms with all applicable laws, ordinances, regulations, and standards related to biological resources and that all potential adverse impacts to biological resources will be mitigated to levels of insignificance.

CONDITIONS OF CERTIFICATION

BIO-1 The project owner will implement the mitigation measures identified in Section 5.6.3.1 (Mitigation Measures) of the Application for Certification (Exhibit 1, / 5.6.3.1) and incorporated herein by reference. Each of these mitigation measures will be incorporated into the BRMIMP unless it conflicts with mitigation required by the USFWS, CDFG and the County of San Diego. If there is a conflict between the draft BRMIMP and the federal and/or state conditions, then the federal and/or state conditions will supercede those found in the draft BRMIMP. For more information about the mitigation implementation and monitoring plan, see Condition **BIO—9** below.

Protocol:

1. Pre-construction, in-season surveys for sensitive biological resources will be performed at construction areas to identify sensitive resources and to develop a plan for avoiding impacts on sensitive resources to the extent feasible. Takings of federal or state-listed threatened or endangered species will be avoided or will be consistent with appropriate permits and approvals.
2. Monitors will be provided during construction to educate construction contractors regarding sensitive biological resource issues and areas intended for avoidance. Sensitive resources near construction areas will be identified and clearly marked for avoidance.
3. Temporary construction disturbance areas will be allowed to naturally revegetate with pre-disturbance species. Grades and soil surfaces will be maintained to support this type of natural revegetation.
4. Best management practices for pipeline construction will be implemented to ensure that movement of groundwater from upland habitats to seep areas in the drainage within Johnson Canyon is not permanently disrupted. This may include features such as impermeable trench breakers placed at the downstream ends of sections of groundwater seep activity to prevent capture of the seep and downstream underground movement of groundwater along the wastewater discharge pipeline. A monitoring program will be implemented after construction to determine if measures have been adequate and to implement corrective measures, if necessary, to restore the groundwater seeps to pre-construction conditions.

Verification: At least 60 days prior to the start of any project related ground disturbance activities, the project owner shall provide the Energy Commission Compliance Project Manager (CPM) with the final BRMIMP. The CPM will determine the plan s acceptability within 15 days of receipt of the plan.

Implementation of the above measures, or their replacement(s) based upon the federal Biological Opinion and/or the CDFG Consistency Determination, will be included in the final BRMIMP.

DESIGNATED BIOLOGIST

BIO-2 Construction site and/or ancillary facilities preparation (described as any ground disturbing activity other than geotechnical work) shall not begin until a CPM approved Designated Biologist is available to be on site.

Protocol: The Designated Biologist must meet the following minimum qualifications:

1. A Bachelor s Degree in biological sciences, zoology, botany, ecology, or a closely related field;
2. At least three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;
3. At least one year of field experience with biological resources found in or near the project area; and
4. An ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

If the CPM determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual s name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new biologist is on site.

Verification: At least 60 days prior to the start of any ground disturbance activities, the project owner shall submit to the CPM for approval, the name, qualifications, address and telephone number of the individual selected by the project owner as the Designated Biologist. If a Designated Biologist is replaced, the information on the proposed replacement, as specified in the condition, must be submitted in writing at least ten (10) working days prior to the termination or release of the preceding Designated Biologist.

BIO-3 The CPM approved Designated Biologist shall perform the following during project construction and operation:

1. Advise the project owner's Construction Manager on the implementation of the Biological Resource Conditions of Certification;
2. Supervise or conduct mitigation, monitoring and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as, wetlands and special status species; and
3. Notify the project owner and the CPM of non-compliance with any Biological Resources Condition of Certification.

Verification: During project construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

BIO-4 The project owner's Construction Manager shall act on the advice of the Designated Biologist to ensure conformance with all Biological Resources Conditions of Certification.

Protocol: The project owner's Construction Manager shall halt, if necessary, all construction activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resource impacts are avoided.

The Designated Biologist shall:

1. Inform the project owner and the Construction Manager when to resume construction, and
2. Advise the project owner and Energy Commission CPM if any corrective actions are needed or have been instituted.

Verification: Within 2 working days of a Designated Biologist notification of non-compliance with a Biological Resources Condition of Certification or a halt of construction, the project owner shall notify the CPM by telephone of the circumstances and actions being taken to resolve the problem or the non-compliance with a condition. For any necessary corrective action taken by the project owner, a determination of success or failure will be made by the CPM within 5 working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

WORKER ENVIRONMENTAL AWARENESS PROGRAM

BIO-5 The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or related facilities during construction and operation, are informed about the sensitive biological resources associated with the project area.

Protocol: The Worker Environmental Awareness Program must:

1. Be developed by the Designated Biologist and consist of an on-site or training center presentation in which supporting written material is made available to all participants;
2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;
3. Present the reasons for protecting these resources;
4. Present the meaning of various temporary and permanent habitat protection measures; and
5. Identify whom to contact if there are further comments and questions about the material discussed in the program.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement.

Verification: At least 30 days prior to the start of rough grading, the project owner shall provide copies of the Worker Environmental Awareness Program and all supporting written materials prepared by the Designated Biologist and the name and qualifications of the person(s) administering the program to the CPM for approval. The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed statements for the construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least 6 months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for the duration of their employment and for 6 months after their termination.

U. S. FISH & WILDLIFE SERVICE SECTION 7 BIOLOGICAL OPINION

BIO-6 Prior to the start of any ground disturbance activities, the project owner shall provide the CPM with a final copy of the Section 7 Biological Opinion in accordance with the federal Endangered Species Act obtained from the USFWS.

Verification: At least 60 days prior to the start of any project related ground disturbance activities the project owner shall submit to the CPM a copy of the federal Section 7 Biological Opinion. The Section 7 Biological Opinion terms and conditions will be incorporated into the final BRMIMP and implemented during project construction and operation. For more information about the BRMIMP, see **BIO-9**.

CALIFORNIA DEPT. OF FISH AND GAME CONSISTENCY DETERMINATION

BIO-7 The project owner shall provide the CPM with a copy of the CDFG Consistency Determination.

Verification: At least 60 days prior to the start of any project-related ground disturbance activities the project owner shall submit a copy of the CDFG Consistency Determination to the CPM. The CDFG Consistency Determination terms and conditions will be incorporated into the final BRMIMP. For more information about the BRMIMP, see Condition **BIO-9**.

CDFG STREAMBED ALTERATION AGREEMENT, CORPS OF ENGINEERS SECTION 404 NATIONWIDE PERMIT, & STATE CLEAN WATER ACT SECTION 401 CERTIFICATION

BIO-8 The project owner shall acquire and implement the terms and conditions of a CDFG Streambed Alteration Agreement, a Corps of Engineers Section 404 Nationwide Permit, and a State Section 401 certification.

Verification: At least 60 days prior to the start of any project-related ground disturbance activities, the applicant will provide the CPM with a copy of the final CDFG Streambed Alteration Agreement, a Corps of Engineers Section 404 permit, and state Section 401 certification. The terms and conditions of the agreement, certification, and permit will be incorporated into the project's BRMIMP. For more information regarding the BRMIMP, see Condition **BIO-9**.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN

BIO-9 The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan. Any changes made to the adopted BRMIMP must be made in consultation with the CEC as well as with the USFWS, CDFG, and the County of San Diego.

Protocol: The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance conditions included in the Commission's Final Decision;
2. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
3. All mitigation measures provided in the USFWS Section 7 Biological Opinion, County of San Diego Multiple Species Conservation Program/Biological Mitigation Ordinance, and the CDFG Consistency Determination;
4. All required mitigation measures/avoidance strategies for each sensitive biological resource;
5. Required habitat compensation strategy, including provisions for acquisition, enhancement and management, for any temporary and permanent loss of sensitive biological resources;
6. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;
7. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to site disturbance and one set after completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;
8. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
9. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
10. All performance standards and remedial measures to be implemented if performance standards are not met;
11. A discussion of biological resource-related facility closure measures;
12. A process for proposing plan modifications to the Energy Commission CPM and appropriate agencies for review and approval; and
13. Terms and conditions of the CDFG Section 1601 Streambed Alteration Agreement, federal Section 404 permit, and state Section 401 certification.

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP, and the CPM will determine the plan's acceptability within 15 days of receipt of the final plan. All modifications to the approved BRMIMP must be made only after consultation with CEC, USFWS, CDFG, and the County of San Diego. The project owner shall notify the CPM five (5) working days before implementing any CPM approved modifications to the BRMIMP.

Within 30 days after completion of project construction, the project owner shall provide to the CPM for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which mitigation and monitoring plan items are still outstanding.

HABITAT COMPENSATION

BIO-10 To compensate for temporary and permanent impacts to sensitive species habitat, the project owner shall implement a habitat compensation strategy that guarantees the perpetual care of at least 32.9 acres of off-site habitat in the region of the proposed project.

Verification: At least 30 days prior to the start of any project-related ground disturbance the project owner will provide written verification to the CPM that all habitat compensation purchases have been completed. At the same time, written verification must also be provided showing that the associated endowment and any other associated costs related to the habitat compensation have also been provided.

Within 90 days after completion of project construction, the project owner shall provide the CPM aerial photographs taken after construction and an analysis of the amount of any additional habitat disturbance than that identified in this staff assessment. The CPM will notify the project owner of any additional funds required to compensate for any additional habitat disturbances at the adjusted market value at the time of construction to acquire and manage habitat.

QUINO CHECKERSPOT BUTTERFLY RESEARCH ENDOWMENT

BIO-11 To compensate for impacts to the quino checkerspot butterfly and its habitat from the OMGP NO_x emissions, the project owner will provide \$305,016 to the Center for Natural Lands Management (CNLM) to establish the Otay Mesa Project Quino Checkerspot Butterfly Endowment. The California Energy Commission and the USFWS will decide how the funds will be used to better understand the quino checkerspot butterfly and its management. A portion of the funds may also be used to purchase compensation habitat if later the Energy Commission and the USFWS agree that habitat purchase, in addition to research, is an appropriate use of the endowment funds.

Verification: At least 30 days prior to the start of any project-related ground disturbance, the project owner will provide a certified check to the CNLM for \$305,016 and written verification to the CPM that the check has been provided to CNLM.

FACILITY CLOSURE

BIO-12 The project owner will incorporate into the planned permanent or unexpected permanent closure plan measures that address the local biological resources. The biological resource facility closure measures will also be incorporated into the BRMIMP. (See Condition **BIO-9**, above)

Protocol: The planned permanent or unexpected permanent closure plan will require that the following biological resource-related mitigation measures be addressed:

1. Removal of transmission conductors when they are no longer used and useful;
2. Removal of all power plant site facilities; and
3. Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species.

Verification: At least 12 months (or a mutually agreed upon time) prior to the commencement of closure activities, the project owner shall address all biological resource-related issues associated with facility closure in a Biological Resources Element. The Biological Resources Element will be incorporated into the Facility Closure Plan, and include a complete discussion of the local biological resources and proposed facility closure mitigation measures.

B. SOILS AND WATER RESOURCES

This portion of the Decision concentrates on the project's potential to induce erosion and sedimentation, adversely affect surface and groundwater supplies, degrade surface and groundwater quality, and increase the potential for flooding.⁶²

SUMMARY AND DISCUSSION OF THE EVIDENCE

The proposed plant, laydown area, and linear facilities will be located in the Otay Mesa area near the intersection of Alta and Otay Mesa Roads in southwestern San Diego County. (Exs. 42; 52, p. 1 & Fig. 3.5-1.) The 46-acre site consists of a 26.5-acre main pad for the power block, a 4.3-acre switchyard pad, and a temporary three-acre construction laydown area. (Ex. 64, p. 251.) Linear facilities include two natural gas pipelines, two short parallel outlet lines, a wastewater discharge pipeline, the reconductored transmission line, and new access road.

1. Soils

Clay loams represent the predominant soil in the project area. (Exs. 1, p. 5.4-1; 64, p. 252.) Diablo Clays, found on 29 acres of the site, are characterized as well-drained, moderately deep clays derived from soft calcareous sandstone shale that has a low permeability and high shrink-swell potential. (Exs. 1, pp. 5.4-1 & 2; 64, pp. 252-53.) Slopes encountered for this portion of the site range

⁶² Accelerated wind and water induced erosion will result from earth moving activities associated with construction of the OMGP. (Exs. 8; 64, pp. 255, 260.) Removal of the vegetative cover and alteration of the soil structure leaves soil particles vulnerable to detachment and erosion. (*Ibid.*) The facility and linear facilities are located in a region with moderate rainfall, approximately 11 inches per year, and dry hot summers. (Exs. 8, p.1-1; 64, pp. 252, 255.) Ninety percent of the precipitation in the area occurs between November-April; maximum-recorded wind gusts are 64 mph. (Ex. 64, p. 252.)

from 2 to 9 percent.⁶³ (*Ibid.*) The remaining 17 acres of the site consist of Huerhuero loam containing moderately well-drained loams with clay subsoil and strong slopes ranging from 9 to 15 percent. This soil has very low permeability, high shrink-swell potential, moderate water erosion potential, and low wind erosion potential. (Ex. 1, pp. 5.4-1 and 5.4-2; Ex. 64, p. 253.)

Applicant identified 17 different soil-mapping units along the 9.05-mile reconductoring route (Route 1).⁶⁴ (Ex. 1, § 5.4.1.1.2 & Map & Table 5.4-1.) The gas pipeline route to the Harvest Regulator Station (Route 2A) is almost entirely Diablo Clays with small areas of Salinas Clay.⁶⁵ Along the alternate gas pipeline route (Route 2B), four different soil-mapping units are identified but San Miguel-Exchequer Rocky Silt Loam predominates. Here, slopes range from 9 to 70 percent, the clays and loams have potential for high water erosion, low wind erosion, and high shrink-swell. (*Ibid.*)

The potable water supply line (Route 3) also contains the Diablo Clay series. (Ex. 1, p. 5.4-11, Table 5.4-2.) Likewise, the wastewater discharge pipeline route (Route 4) will encounter Diablo Clays with only a small area of Linne Clay Loam. (Ex. 1, p. 5.4-11/12, Table 5.4-2.) The Linne Clay Loam found along Route 4 has the potential for moderate water erosion, moderate shrink-swell and moderately slow permeability, and low wind erosion. (Ex. 64, p. 253.)

⁶³ Water erosion potential for this soil is slight to moderate and wind erosion potential is low. (Exs. 1, p. 5.4-2; 64, p. 253.) Included in this portion of the site are the water supply line (Route 3) and the northern access road (Route 5). (*Ibid.*)

⁶⁴ Water erosion potential for these soils is generally moderate (Diablo Clay and Olivehain Cobbly Loam), while the wind erosion potential is mostly low. (Ex. 1, pp. 5.4-5.10, Table 5.4-2.) However, there are areas of steep slopes (15 to 30 percent) and soils of high erosion susceptibility (Huerhuero Loam and San Miguel-Exchequer Rocky Silt Loams) along portions of Route 1. (*Ibid.*)

⁶⁵ The Diablo Clay and Salinas Clay have similar characteristics: moderate water erosion potential, low wind erosion potential, slow permeability and high shrink-swell potential. (Ex. 1, pp. 5.4-5.10, Table 5.4-2; Ex. 64, p. 253.)

Table 1, replicated from Staff's testimony, shows the estimated permanent and temporary disturbances resulting from construction and operation of the project.

SOILS & WATER RESOURCES Table 1
Estimated Land Disturbance

Project Component	Construction (acres)	Operation (acres)
Generating Plant	18	15
T- Line (Rte 1)		
New tower sites	1.4	0.01
Pull sites	12	--
Gas Pipeline (Rte 2A)	2.4	1.2
Gas Pipeline (Rte 2B)	19.4	9.7
Water Supply Line* (Rte 3)	--	--
Wastewater Discharge Line (Rte 4)	12.12	6.06
Wastewater Discharge Line (Rte 4A)**	8.2	1.9
Northern Access Road (Rte 5)	1.82	1.82
Southern Access Road (Rte 5A)**	--	--

*The potable water supply line is will be built in the same right of way as the natural gas pipeline and therefore is already accounted for in the figures for Route 2A.

**A portion of Route 4A and Route 5A share the right of way with the potable water line and the natural gas pipeline and, therefore, has already been accounted for in Route 2A.

Source: (Ex. 64, p. 256.)

The site will be cut and filled to provide a mild sloped (0.5 percent) main pad that ranges in elevation from 662 to 669 feet above mean sea level (msl). (Ex. 64, p. 256.) The proposed switchyard pad ranges in elevation from 669 to 672 feet msl. (*Ibid.*) Vegetation from the power plant site will be removed and disposed while topsoil will be stockpiled where appropriate.⁶⁶ (*Ibid.*) Graded areas will slope away from buildings and onsite drainage will be accomplished by gravity flow. Drainage facilities will comply with San Diego County's regulations on grading as well as the East Otay Mesa Site Planning and Design Guidelines. (*Id.* at p. 263.)

The project's linear facilities cross several intermittent drainages. (Ex. 64, p. 258.) Route 2B crosses two ephemeral channels and Route 4 runs parallel to

⁶⁶ Surface materials to be used at the site will include concrete, asphalt, and/or gravel. (Ex. 64, p. 256.) Graded surfaces will have a mild slope resulting in surface runoff flowing toward one of three detention ponds. (*Ibid.*)

and north of the creekbed of Johnson Canyon. These drainages are subject to regulation under the U.S. Clean Water Act.⁶⁷ (*Ibid.*)

During project operation, wind and water action can erode unprotected surfaces. (Ex. 64, p. 257.) An increase in the number of impervious surfaces can increase runoff, leading to the erosion of unprotected surfaces. (*Ibid.*) Applicant has provided a draft Erosion Control and Stormwater Management Plan, which identifies potential temporary and permanent erosion, and stormwater runoff control measures.⁶⁸ (Ex. 8; Ex. 64, p. 251.) The final plan will include specific best management practices (BMPs) to control stormwater-related pollution and minimize erosion. (Ex. 64, p. 262.)

2. Water Supply

Water will be supplied to OMGP by the Otay Water District (OWD) via a new 0.2-mile connection to OWD's 24-inch water supply main located beneath Alta Road.⁶⁹ (Exs. 43; 64, pp. 253, 256.) OMGP will use approximately 385 acre-feet per year (AFY) of process water for steam generation and potable water for domestic needs.⁷⁰ (Ex. 64, p. 258.) Water storage onsite will consist of an

⁶⁷ 33 U.S.C. § 1257. A Nationwide 404 Permit from the U.S. Army Corps of Engineers and a Section 401 Certification by the San Diego Regional Quality Control Board (RWQCB) are required to protect the ephemeral streams. (Ex. 64, p. 262.) In addition, the California Department of Fish and Game requires a Streambed Alteration Agreement. (*Id.* at p. 258.) These requirements are also discussed in the **Biological Resources** section.

⁶⁸ All uncontaminated stormwater runoff will be directed to an unlined detention pond located at the southwest portion of the site and designed for a 50-year, 24-hour storm. (Ex. 8.)

⁶⁹ Applicant has identified no backup water supply. (Ex. 64, p. 258.) OWD will provide potable water to OMGP until quality recycled water becomes available. (*Ibid.*)

⁷⁰ OMGC will employ air cooled condensers at the power plant for heat rejection, which significantly reduces the amount of water required by the facility when compared to other projects that use a wet cooled system. (Ex. 64, pp. 255; 258; cf. wet cooled La Paloma (98-AFC-2) 5,500 AFY; wet cooled Elk Hills (99-AFC-1) 3,000 AFY, dry cooled Sunrise (98-AFC-4) 278 AFY; and dry cooled OMGP's proposed 385 AFY.)

800,000-gallon demineralized water storage tank and a 450,000-gallon fire/service water storage tank. (*Ibid.*)

OWD's "Will Serve" letter to Applicant states that the OWD "has a large excess of available storage" in its facility near the project site. (Ex. 43.) The letter further indicates that Applicant's annual demand represents "about one percent of the District's current supply and, as such, represents an insignificant increase in demand on OWD water supplies, including treatment capacity." (*Ibid.*; Ex. 64, p. 259.) Finally, the approved OWD Master Plan "provides for phased and orderly expansion of District facilities in response to future growth and water demand in our service area." (*Ibid.*)

OWD is a public agency servicing a territory approximately 129 square miles (85,000 acres) in the Otay Mesa area. (Ex. 64, p. 259.) In 1998-99, OWD delivered over 24,000-acre feet (8.0 billion gallons) of water to its customers. OWD's water storage facilities can hold 174.8 million gallons of water at full capacity. (*Ibid.*)

OWD obtains its water supply through six connections to the San Diego County Water Authority (SDCWA), which in turn purchases water from the Metropolitan Water District of Southern California (MWD)⁷¹. (Ex. 64, p. 254.) Because OWD lacks groundwater resources or impounded reservoirs, it relies heavily on imported water obtained by the SDCWA through MWD.⁷² (*Ibid.*) MWD is a

⁷¹ SDCWA obtains nearly 85 percent of its water resources from MWD and supplies it to its 23 member agencies throughout San Diego County, including OWD. (Ex. 64, p. 254.) In 1999, the SDCWA provided more than 619,400 acre feet of water (466,884 acre feet of imported and 152,525 acre feet of local resources) and by 2015, the SDCWA expects demand to exceed 787,000 acre feet. (*Ibid.*) Through a recent agreement with the Imperial Irrigation District, SDCWA, by 2009, will obtain up to an additional 200,000 acre-feet of newly conserved irrigation water, thus reducing its dependency on the MWD. (*Ibid.*)

⁷²Groundwater bodies in the San Diego region tend to be small and shallow. (Ex. 64, p. 252.) Designated beneficial uses of the groundwater resources of the Otay Valley include municipal supplies, agricultural, and industrial service. (*Ibid.*) According to Applicant, however, groundwater within the vicinity of the project is not used for any of these purposes because of its poor quality. (*Ibid.*) With low precipitation and high evaporation rates, rainfall provides little

consortium of 27 cities and districts in Southern California that imports water into the region. Colorado River water obtained via the Colorado River Aqueduct represents 70 percent of MWD's imports. (*Ibid.*) State Water Project (SWP) water obtained via the California Aqueduct makes up the remaining 30 percent. (*Ibid.*)

3. Recycled Water

OWD also owns and operates a recycled water system. (Ex. 64, p. 254.) Approximately 1.3 million gallons of recycled water are produced daily at the Chapman Water Recycling Facility. The recycled water is transported to eastern Chula Vista, where it is used for irrigation. (*Ibid.*)

Currently, OWD is negotiating with the City of San Diego for additional supplies of recycled water upon completion of the South Bay Water Reclamation Plant. (Ex. 64, p. 254.) Infrastructure needed to supply recycled water to the Otay Mesa area is described in the East Otay Mesa Specific Plan, which identifies a 20-inch recycled water main to be installed below Alta Road.⁷³ (*Ibid.*)

On cross-examination of Applicant's witness, Intervenor Holly Duncan attempted to clarify the requirements for Applicant's use of OMD-recycled water instead of potable water. (11/20/00 RT 40-47.) Applicant's witness explained that OMGP would install a secondary piping system to receive recycled water when it becomes available. (*Id.* at pp. 48-49.) The OWD was unable to specify, however, when recycled water would become available or its potential quality.

groundwater recharge in the area; Applicant's borings (the deepest was to 81.5 feet) did not encounter groundwater that is expected to be 100-150 feet subsurface. (*Ibid.*)

⁷³ Alta Road is directly west and adjacent to the proposed power plant. (Ex. 64, p. 254.) As required by law, the City of San Diego and Applicant are proposing a dual plumbing system, which would accommodate the use of recycled water. (Ex. 64, p. 254; 11/20/00 RT 40:3-50:14; see Water Code § 13555.3; OWD Code § 26; Uniform Plumbing Code § 1.)

(*Ibid.*; Ex. 64, p. 258.) Applicant will use recycled water when available and acceptable for industrial uses at the plant.⁷⁴ (*Ibid.*; *Id.* at pp. 59-61.)

4. Water Quality and Wastewater Disposal

OMPG will discharge wastewater to an existing Metro sewer main in Johnson Canyon that eventually travels to the Point Loma Wastewater Treatment Plant (“Point Loma”). (Ex. 64, p. 259.) Currently Point Loma treats about 180-190 million gallons per day (mgd) and has a maximum capacity of 240 mgd. (*Ibid.*) Applicant’s estimated project wastewater flows to the Metro sewer system are shown below:

SOILS & WATER RESOURCES Table 2
Estimated Wastewater Volumes

Waste Stream	Daily Average (gal/day)	Daily Maximum (gal/day)
CTG Evaporative Cooler Blowdown	6,000	6,000
Carbon Filter Backwash/ RO Reject	62,000	126,000
Steam Cycle Drains	38,000	38,000
Oil/Water Separator Wastes	22,000	22,000
Sanitary Wastes	3,000	3,000
Total Discharge to Metro	131,000 (91 gpm)	195,000 (135 gpm)

Source: (Ex. 64, p. 259.)

Applicant will obtain an Industrial Users Wastewater Discharge Permit from the City of San Diego prior to discharging the effluent to the Metro sewer system. (Ex. 64, pp. 251, 259.)⁷⁵ The estimated wastewater stream characteristics are shown in the following table, replicated from Staff’s testimony:

⁷⁴ See letter to the CEC docketed on December 6, 2000 from Mr. Charlie Cassens of the OWD.

⁷⁵ Applicant submitted a draft application for the Industrial Users Wastewater Discharge Permit and Spill Prevention and Management Plan to Staff and to the City of San Diego. (Ex. 64, p. 259.)

SOILS & WATER RESOURCES Table 3
Estimated Wastewater Characteristics

Constituent	Combined Waste (mg/L)
Calcium	90
Magnesium	36
Sodium	120
Potassium	6
BOD5	17
Alkalinity (CaCO3)	225
Sulfate	283
Chloride	115
Fluoride	0.3
Ammonia	3
Nitrate	0.3
Phosphate	0.3
Chemical Oxygen Demand	10
Boron	0.7
Silica	21
Total Dissolved Solids	<1
Total Suspended Solids	263
Oil & Grease	897*
Ph	7.5-8.5

Source: (Ex. 64, p. 260.)

* While this concentration exceeds the local limit of 500 mg/l, Staff confirmed with the City of San Diego that the wastewater is acceptable.

5. Cumulative Impacts

The Otay Mesa Specific Plan identifies significant industrial and commercial development near the project site. (Ex. 64, p. 260.) OWD expects potable water demand in its service area will be approximately 40,000 AFY by 2020. (*Ibid.*) OWD has also established requirements for the use of recycled water to slow the growing demand for potable water. Recognizing the need to increase available water supplies, the SDCWA is pursuing additional water supplies to serve member agencies. (*Ibid.*) In addition, the Point Loma Wastewater Treatment Facility currently has excess capacity and additional treatment facilities are being constructed to accommodate additional treatment needs in the region. (*Id.* at pp. 260-61.)

Three industrial projects are currently planned in the East Otay Mesa Specific Plan Area: a 245-acre industrial park northeast of the intersection of Otay Mesa

Road and proposed State Route 125; a 40-acre travel plaza/truck-stop near the northeast corner of Airway Road and Enrico Fermi Drive; and a truck storage facility proposed south of the plaza/truck-stop development. (Ex. 64, p. 261.)

No specific data are available on anticipated water needs or wastewater discharge characteristics of these pending projects but the OWD expects water demand will be for domestic purposes. Plans for expansion of water services in the region are designed to accommodate anticipated development. Since the OMGP will employ dry cooling and eventually utilize recycled water, OMGP's water usage will not cause any significant adverse cumulative impacts to water resources. (Ex. 64, pp. 251, 262.)

COMMISSION DISCUSSION

OWD provided Applicant with a "Will Serve" letter based on its determination that water service to OMGP represents an insignificant increase in demand on OWD water supplies, including its treatment capacity.

The evidence of record demonstrates that recycled water is not yet available to the proposed project. Should recycled water become available, Applicant is providing dual plumbing to accommodate any later switchover. Accordingly, we conclude that the OMGP's water supply requirements will not adversely affect OWD's ability to supply existing customers, or likely curtail its ability to meet future demands. This is particularly true in light of OWD's Master Plan and its provision for an orderly expansion in response to future growth and water demand. Accordingly, we are satisfied that the concerns raised by Ms. Duncan regarding the use of recycled water have been addressed.

Staff concluded that OMGP's construction and operation would not result in any adverse impacts to soil or water resources if the project owner implements the

specified mitigation measures and satisfies the Conditions of Certification. (Ex. 64, pp. 264.) We concur with Staff's recommendation.

FINDINGS AND CONCLUSIONS

Based upon the evidence of record, we make the following findings and conclusions:

1. Soils in the project area are susceptible to wind and water erosion.
2. Applicant shall provide a final Streambed Alteration Agreement (SAA) from the California Department of Fish and Game, a Nationwide 401 permit from the U.S. Army Corps of Engineers, and a Section 401 Water Quality Certification from the San Diego Regional Water Quality Control Board (SDRWQCB) prior to project construction.
3. Applicant has provided a draft Erosion Control and Stormwater Management Plan that will serve as the Stormwater Pollution Prevention plan as required under the General Construction Stormwater Permit issued by the State Water Resources Control Board.
4. The Conditions of Certification, below, in conjunction with the SAA, the Nationwide 401 permit, and the SDRWQCB Section 401 certification ensure that soil and water erosion will not create significant adverse environmental impacts.
5. The OMGP will obtain its water supply exclusively from the Otay Water District (OWD).
6. OMGP will employ dry cooling technology in the operation of the power plant.
7. Dry cooling technology will substantially reduce the water supply needs of the OMGP when compared with electric generating facilities that employ wet cooling technology.
8. The OWD has sufficient water to meet project needs.
9. Recycled water is not yet available to the OMGP but the project owner will install dual plumbing to accommodate recycled water when it becomes available.

10. No adverse cumulative impacts to soils or water resources were identified in the evidentiary record.

CONDITIONS OF CERTIFICATION

SOILS&WATER 1: Prior to beginning any clearing, grading or excavation activities associated with construction of any project element, the project owner shall obtain approval from the Energy Commission CPM for the final Storm Water Pollution Prevention Plan (SWPPP) as required under the General Stormwater Construction Activity Permit for the project. Protocol: The final General Construction SWPPP shall contain all the elements of the draft plan with changes made to address staff comments and the final design of the project. Approval of the final plan by the Energy Commission CPM must be received prior to the initiation of any clearing, grading or excavation activities associated with the construction of any project element.

Verification: At least 30 days prior to the start of any clearing, grading or excavation activities associated with construction of any project element, the project owner will submit a copy of the SWPPP for construction activities to the Energy Commission Compliance Project Manager (CPM) for review and approval.

SOILS&WATER 2: Prior to the initiation of any clearing, grading or excavation activities associated with any project element, the project owner shall obtain staff approval for a final erosion control and revegetation plan that addresses all project elements. The final plan to be submitted for CPM approval shall contain all the elements of the draft plan with changes made to address any staff comments and the final design of the project. Approval of the final plan by the Energy Commission CPM must be received prior to the initiation of any clearing, grading or excavation activities associated with construction of any project element.

Verification: The erosion control and revegetation plan shall be submitted to the Energy Commission CPM for approval thirty days prior to the start of any clearing, grading or excavation activities.

SOILS&WATER-3: Prior to the initiation of any clearing, grading or excavation activities associated with any project element, the project owner shall obtain a Nationwide permit from the US Army Corps of Engineers and a Section 401 Certification from the San Diego RWQCB.

Verification: No later than 30 days prior to the start of any clearing, grading or excavation activities associated with any project element, the project owner shall submit to the Energy Commission CPM a copy of the Nationwide permit from the

US Army Corps of Engineers and Section 401 Certification from the San Diego RWQCB.

SOILS&WATER-4: Prior to initiating construction of the wastewater discharge line, the project owner shall obtain a service availability letter from the Director of Public Works and pay all necessary capacity fees.

Verification: No later than 30 days prior to the start of any clearing, grading or excavation related to the construction of the wastewater discharge line, the project owner shall submit to the Energy Commission CPM a copy of the request for service from the East Otay Mesa Sewer Maintenance District and a copy of the service availability letter from the Director of Public Works for the County of San Diego to the project owner for the wastewater discharge.

SOILS&WATER-5: Prior to commercial operation, the project owner, as required under the General Industrial Activities Storm Water Permit, must develop and implement a Storm Water Pollution Prevention Permit (SWPPP). Approval for the final Industrial Activities SWPPP must be obtained from the Energy Commission staff prior to commercial operation of the power plant. The final plan shall contain all the elements of the draft plan with changes made to address staff comments and the final design of the project.

Verification: At least 30 days prior to the start of commercial operation, the project owner will submit to the Energy Commission CPM a copy of the Storm Water Pollution Prevention Plan (SWPPP) prepared under the requirements of the General Industrial Activities Storm Water Permit.

SOILS&WATER-6: Prior to commercial operation, the project owner shall submit a copy of an Industrial Users Wastewater Discharge Permit from the City of San Diego to Energy Commission staff.

Verification: At least 30 days prior to the start of commercial operation, the project owner will submit to the Energy Commission CPM a copy of an Industrial Users Wastewater Discharge Permit from the City of San Diego. The final permit shall clearly specify the discharge limits set by the City of San Diego on the wastewater discharge of the project and any other conditions imposed.

SOILS & WATER-7: At such time as recycled water is made available to the East Otay Mesa area, the project owner will conduct an analysis of the use of recycled water for make-up water to the steam turbines and submit this evaluation to Energy Commission CPM.

Protocol: If it is determined that the recycled water is of adequate quality and the cost are comparable to, or less than, those associated with potable domestic water use, the project owner will use recycled water for make-up to the steam turbines. This analysis will evaluate the adequacy of the recycled water quality,

discuss required treatment and associated waste streams, and evaluate present and project costs associated with supplying, delivering and treating the recycled water for use in the steam turbines. The project owner will compare this quality and associated costs with those associated with the use of potable domestic water for the same purpose.

Verification: At least 30 days after recycled water becomes available to the East Otay Mesa area, the project owner will submit an analysis of the use of recycled water for make-up to the steam turbine to the Energy Commission CPM.

C. CULTURAL RESOURCES

Cultural resource materials such as artifacts, structures, or land modifications reflect the history of human development. Certain places that are important to Native Americans or local national/ethnic groups are also considered valuable cultural resources. This topic analyzes the structural and cultural evidence of human development in the project vicinity, where cultural resources could be disturbed by project excavation and construction. Federal and state laws require a project developer, such as OMGP, to implement mitigation measures that minimize adverse impacts to *significant* cultural resources.⁷⁶

SUMMARY AND DISCUSSION OF THE EVIDENCE

Cultural resources are fundamental to understanding human history and heritage. Evidence of California's early inhabitants is becoming increasingly vulnerable due to the ongoing development, industrialization, and urbanization of the state. Cultural resources may be visible on the ground or deeply buried as a result of sedimentation or subsequent uses of the land. These resources provide information about human history and the patterns of human adaptation to environmental change. (Ex. 64, p. 167.)

1. Methodology

To determine whether cultural resources exist in the project vicinity, Applicant conducted a records search and literature review in the area of potential effect

⁷⁶ Potential impacts are considered only for those cultural resources that are deemed significant or important under criteria established by federal and state guidelines. (National Guidelines for Historic Preservation Projects, 36 CFR 800 et seq.; CEQA Guidelines, Title 14, Cal. Code of Regs. / 15064.5; see also, Title 14, Cal. Code of Regs., / 4850 et seq.) If a cultural resource is deemed significant, it may be eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). (See, the National Historic Preservation Act, 16 USC 470, Section 106; California Register of Historical Resources, Pub. Resources Code, / 5024.1.) Expert testimony refers to this listing eligibility as Section 106 compliance.

(APE), a one-mile radius of the project site and linear facility alignments, as well as field surveys of the plant property and the linear alignment corridors. (Ex. 6: Cultural Resources Test Plan; Ex 1, p. 5.7-10 et seq.; Ex, 64, pp. 175-176.) Three aspects of cultural resources were addressed in this research: prehistoric archaeological resources, ethnographic resources, and historic archaeological resources. (*Ibid.*)

Applicant initially reviewed cultural resource data housed at the South Coastal Information Center of the California Historical Resources Information Center (CHRIS). (Ex. 1, p 5.7-11 et seq.) Applicant also researched the San Diego Museum of Man, the National Register for listed and eligible properties, California Historical Landmarks, Points of Historic Interest, and locally listed historic properties and structures. In addition, Applicant reviewed cultural resources maps and site records at Gallegos and Associates in San Diego. (*Ibid.*)

Applicant s research indicated that 40 studies had previously been conducted in the Otay Mesa area, revealing numerous recorded prehistoric and historic sites and isolates. Within the one-mile APE for the OMGP, there were 35 recorded prehistoric or historic sites and one recorded isolate. (Ex. 1,/5.7.1.1 et seq., Table 5.7-1; Ex. 64, p. 175.) Specific locations and descriptions of the known cultural resources are described in Applicant s Confidential Cultural Resource Technical Report and Supplement. (Ex. 1, Appendix J; Ex. 20.)

2. Potential Impacts

Applicant s walking surveys of the project site, laydown area, and linear facility alignments confirmed previously identified cultural resource sites and revealed a light lithic scatter and isolated flakes over the entire plant property and along the alignments. (Ex. 1,/5.7.1.1.2 et seq., Tables 5.7-2 and 5.7-3; Ex. 64, pp. 175-176.) There were three previously recorded sites identified within the boundaries of the 43-acre project property. Applicant and Staff agreed that one of the three

sites is a significant cultural resource. (Ex. 64, pp. 183-184.) **Cultural Resources Table 1** replicated from Staff's testimony lists the known resources within the project property, Applicant's recommendations, and Staff's determinations:

Table 1
Cultural Resources Test Results
Power Plant Site and Laydown Area

Site Number CA-SDI	Tested (Yes/No)	Recommended Significant/Eligible Sign./Not/NA	Comments/ Mitigation Recommendations	CEC Determination of Significance
-7215	Yes	Not significant	Monitoring	Not significant
-10297	Yes	Significant	Avoidance	Significant
-10298	Yes	Not significant	Monitoring	Not significant

(Ex. 64, p. 184.)

There are 19 previously recorded cultural resource sites adjacent to or within the existing San Miguel-Tijuana 230 kV transmission line corridor (Route 1). As a result of previous construction, sites associated with the existing transmission line have been cleared with respect to Section 106 compliance. Although mitigation for previous construction focused on areas of direct impact, there is potential for additional impacts if new components of the previously mitigated sites are exposed and disturbed by project-related reconductoring activities. (Ex. 1, Appendix J, p. J3-6; Ex. 64, p. 184.)

Nine of the previously identified cultural resource sites occur within or adjacent to several reconductoring pull site locations. **Cultural Resources Table 2**, below, replicated from Staff's testimony lists the resources potentially impacted by reconductoring activities, Applicant's recommendations, and Staff's determinations.

Table 2
Cultural Resources Test Results
230 kV Electric Transmission Line, Route 1

Site Number CA-SDI	Tested (Yes/No)	Recommended Significant/Eligible Sign./Not/NA	Comments/ Mitigation Recommendations	CEC Determination of Significance
PS-S-1	No	NA	Outside APE	NA
-4529	Previous	Significant	No additional work	Significant
-7195	No	NA	Outside APE	NA
-7212	Yes	Not significant	Monitoring	Not significant
-9185	No	NA	Outside APE	NA
-10297	Yes	Significant	Avoidance	Significant
-10298	Yes	Not significant	Monitoring	Not significant
-12909	Yes	Not significant	Monitoring	Not in APE
-14225	Yes	Not significant	Monitoring	Not significant

(Ex. 64, p. 186.)

Five cultural resources sites have previously been recorded along the 2.05-mile corridor for the underground natural gas pipeline to SDG&E's Pipeline 2000 (Route 2A). Impacts associated with the pipeline would come from subsurface excavation. However, there could be impacts associated with grading required for staging areas. (Ex. 64, p. 186.) **Cultural Resources Table 3**, replicated from Staff's testimony, contains a list of the resources along Route 2A, Applicant's recommendations, and Staff's determinations.

Table 3
Cultural Resources Test Results
Natural Gas Pipeline, Route 2A

Site Number CA-SDI	Tested (Yes/No)	Recommended Significant/Eligible Sign./Not/NA	Comments/ Mitigation Recommendations	CEC Determination of Significance
-7215	Yes	Not significant	Monitoring	Not significant
-10067	No	NA	Outside APE	N/A
-12337	Previous	Not significant	No Mitigation	Not significant
-12872	Yes	Not significant	Monitoring	Pot. Significant
-12880	Previous	Not significant	No Mitigation	Not significant

(Ex. 64, p. 187.)

Five cultural resource sites were identified along the alternative 1.6-mile underground natural gas pipeline to the border with Mexico (Route 2B). Potential impacts associated with constructing Route 2B would result from subsurface excavation as well as grading required for staging areas and access roads. (Ex. 64, p. 187.) **Cultural Resources Table 4**, replicated from Staff's testimony, contains a list of the resources for Route 2B, Applicant's recommendations, and Staff's determinations.

Table 4
Cultural Resources Test Results
Natural Gas Pipeline, Route 2B

Site Number CA-SDI	Tested (Yes/No)	Recommended Significant/Eligible Sign./Not/NA	Comments/ Mitigation Recommendations	CEC Determination of Significance
SDM-W-171	No	N/A	Outside APE	Not in APE
-8653	Previous	Not significant	No Mitigation	Not significant
-10297	Yes	Significant	Avoidance	Significant
-12707	No	NA	Outside APE	N/A
-12877	Yes	Not significant	Monitoring	Not significant

(Ex. 64, p. 188.)

There is one previously identified cultural resource site likely to be impacted by construction of the underground 0.2-mile potable water supply line (Route 3). **Cultural Resources Table 5**, replicated from Staff's testimony, identifies the potentially impacted resource, Applicant's recommendations, and Staff's determinations. (Ex. 64, p. 188.)

Table 5
Cultural Resources Test Results
Potable Water Supply Line, Route 3

Site Number CA-SDI	Tested (Yes/No)	Recommended Significant/Eligible Sign./Not/NA	Comments/ Mitigation Recommendations	CEC Determination of Significance
-7215	Yes	Not Significant	Monitoring	Not Significant

(Ex. 64, p. 188.)

The 2-mile wastewater discharge line would run from the project site to a trunk sewer line located in Johnson Canyon (Route 4). This route intersects or is adjacent to 10 previously recorded archaeological sites. (Ex. 64, p. 189; Ex. 1, Appendix J, p. J3-12.) San Diego County requested an alternate wastewater route to better serve the sewer needs of potential future development in the Otay Mesa area (Route 4A). (Ex. 64, pp. 189-190; Ex. 20, Appendix J Supplement 1: Technical Report, p. 1.) Route 4A begins at the southwest corner of the plant site, follows the route of the County's proposed Lone Star Road west of Alta Road, and terminates in Johnson Canyon where it intersects Route 4. Two cultural sites identified within this alignment were determined to be insignificant. (*Ibid.*)

Cultural Resources Table 6, replicated from Staff's testimony, contains a list of the resources identified along Routes 4 and 4A, Applicant's recommendations, and Staff's determinations.

Table 6
Cultural Resources Test Results
Waste Water Discharge Line, Routes 4 and 4A

Site Number CA-SDI	Route	Tested (Yes/No)	Recommended Significant/Eligible Sign./Not/NA	Comments/ Mitigation Recommendations	CEC Determination Of Significance
-7215	4/4A	Yes	Not significant	Monitoring	Not significant
-8654	4	Yes	Not significant	Monitoring	Not in APE
-9975	4/4A	Yes	Significant	Data recov/Monitor	Significant
-10296	4/4A	Yes	Not significant	Monitoring	Not significant
-12730	4/4A	No	NA	Outside APE	NA
-12873	4/4A	No	NA	Outside APE	NA
-12874	4/4A	Yes	Not significant	Monitoring	Not significant
-12875	4/4A	No	NA	Outside APE	NA
-15062	4	No	Not relocated	Monitoring	Not in APE
-15063	4/4A	No	Not significant	Monitoring	Not significant

(Ex. 64, p. 190.)

Applicant anticipates that the project's new 0.15-mile access road will require some grading beyond the normal cut (Route 5)⁷⁷. One cultural resource site was identified near Route 5, but it is not significant. (Ex. 64, p. 190.) **Cultural Resources Table 7**, replicated from Staff's testimony, identifies the cultural resource located near Route 5, and indicates Applicant's recommendations and Staff's determinations.

Table 7
Cultural Resources Test Results
Proposed Access Road

Site Number CA-SDI	Route	Tested (Yes/No)	Recommended Significant/Eligible Sign./Not/NA	Comments/ Mitigation Recommendations	CEC Determination of Significance
-7215	5	Yes	Not significant	Monitoring	Not significant

(Ex. 64, p. 191.)

a. Cumulative Impacts

Staff conducted a cumulative impact analysis based on anticipated industrial and commercial development of the Otay Mesa area in the next 20 years. (Ex. 64, p. 191.) The East Otay Mesa Specific Plan identifies significant but mitigable impacts to cultural resources as the result of area development. (*Ibid.*) According to Staff, the projects most likely to affect the same cultural resources as the OMGP are the extension of State Route 125 and the Route 905 upgrade. Staff concluded that measures identified in the Specific Plan, such as avoidance and excavation with data recovery, would mitigate potential cumulative impacts below levels of insignificance. (*Ibid.*)

⁷⁷ Applicant proposed an alternate route for the access road, at the request of San Diego County, to follow the County's planned Loop Road in the area between Alta Road and the southwest corner of the 46-acre project site boundary (Route 5A). Staff concluded that construction of Route 5A would not result in significant impacts to cultural resources since it follows the same corridor as Route 4A, described above. (Ex. 64, p. 191; Ex. 17, pp. 1-2.)

b. Native American Heritage Commission

The California Native American Heritage Commission (NAHC) maintains records and maps of traditional resource sites and sacred lands located throughout the state. Applicant's research of NAHC records did not indicate the presence of sacred lands in the project area. (Ex. 6, p. 1.) To obtain further information about Native American resources near the project site, Applicant sent letters and maps to groups and individuals identified by the NAHC. (Ex. 1, p. 5.7-10.) Responses to Applicant's mailings focused on the need for Native American monitoring during project excavation and construction. (*Ibid.*) Condition **CUL-15** ensures that the project owner will implement a monitoring program consistent with NAHC guidelines.

3. Mitigation

According to Staff, the preferred mitigation is avoidance of known resources. If avoidance cannot be achieved, then surface collection, subsurface testing, and data recovery will be implemented (Ex. 64, p. 192.) Staff indicated that the existence of known cultural resources in the project area creates the potential for impacts to unknown resources. (*Id.*, at p. 193.) To prevent adverse impacts to known or unknown resources, Applicant proposed a cultural resource-monitoring program for areas of high sensitivity. (Ex. 1, /5.7.3.1.) The six-step program outlined below is incorporated and explained in the Conditions of Certification:

- Avoidance
- Physical Demarcation and Protection
- Worker Education
- Archeological Monitoring
- Native American Monitoring
- Significance Review

Condition **CUL-3** requires the project owner to develop and implement a Cultural Resource Monitoring and Mitigation Plan (CRMMP). If cultural resources are encountered during construction activities, the totality of mitigation measures contained in the Conditions of Certification will ensure that the resources are protected. Condition **CUL-1** requires the project owner to designate a qualified cultural resource professional to be responsible for implementing the CRMMP. (Ex. 64, p. 195.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. There are 35 known prehistoric and historic resources within or adjacent to the critical Area of Potential Effect (APE).
2. There is surface evidence of cultural resources within the project footprint and within the survey corridor adjacent to the linear facility alignments.
3. The presence of known sites indicates a high potential for previously unknown cultural resources to be encountered and affected during project construction.
4. The potential for impacts to unknown cultural resources may not be discovered until subsurface soils are exposed during excavation and construction.
5. There are no known Native American sacred properties within the APE recorded with the Native American Heritage Commission.
6. The mitigation measures contained in the Conditions of Certification below ensure that direct, indirect, or cumulative adverse impacts to cultural resources resulting from project-related activities will be insignificant.

The Commission therefore concludes that with implementation of the Conditions of Certification below, the project will conform with all applicable laws, ordinances, regulations, and standards relating to cultural resources as set forth in the pertinent portions of **APPENDIX A** of this Decision.

CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of earth-disturbing activities, vegetation clearance, site excavation activities, the movement or parking of heavy equipment onto or over the project surface, the project owner shall provide the California Energy Commission (Energy Commission) Compliance Project Manager (CPM) with the name and statement of qualifications for its designated cultural resource specialist and an alternate designated cultural resource specialist, who will be responsible for implementation of all cultural resources conditions of certification.

Protocol: The statement of qualifications for the designated cultural resource specialist and alternate shall include all information needed to demonstrate that the specialist meets at least the minimum qualifications specified below, including the following:

1. a graduate degree in archaeology, cultural resource management, or a comparable field;
2. at least three years of archaeological resource evaluation, management, impact mitigation and field experience in California; and
3. at least one year experience in each of the following areas:
 - a. leading archaeological resource field surveys;
 - b. leading site and artifact mapping, recording, and recovery operations;
 - c. marshaling and use of equipment necessary for cultural resource recovery and testing;
 - d. preparing recovered materials for analysis and identification;
 - e. determining the need for appropriate sampling and/or testing in the field and in the laboratory;
 - f. directing the analyses of mapped and recovered artifacts of both Native American and historical origin;
 - g. completing the identification and inventory of recovered cultural resource materials; and
 - h. preparing appropriate reports to be filed with the receiving curation repository, the State Historic Preservation Officer (SHPO), and all appropriate regional archaeological information center(s) CHRIS.

The statement of qualifications for the designated cultural resource specialist shall include:

1. a list of specific projects the specialist has previously directed;
2. the role and responsibilities of the specialist for each project listed; and

3. the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

If the designated specialist does not intend to personally supervise all surveys, studies, monitoring, or excavations, the principal shall designate the name and qualifications of a comparably qualified alternate cultural resource specialist. The specialist shall also provide the names and qualifications of any potential consultants such as historian or architectural historian who may participate.

Verification: At least 90 days prior to the start of project-related vegetation clearance or earth-disturbing activities, or project site preparation, or the movement or parking of heavy equipment onto or over the project site surface, the project owner shall submit the name and statement of qualifications of its designated cultural resource specialist and alternate cultural resource specialist to the CPM for review and approval.

At least 10 days but no more than 30 days prior to the start of any project-related vegetation clearance or earth-disturbing activities, or project site preparation or the movement or parking of heavy equipment onto or over the project site surface, the project owner shall confirm in writing to the CPM that the approved designated cultural resource specialist will be available at the start of earth-disturbing activities and is prepared to implement the cultural resources conditions of certification.

At least 10 days prior to the termination or release of a designated cultural resource specialist or field director, the project owner shall obtain CPM approval of the replacement professionals by submitting to the CPM the name and resume of the proposed new designated individuals.

CUL-2 Prior to the start of any project-related vegetation clearance, or earth-disturbing activities or project site preparation, or the movement or parking of heavy equipment onto or over the project surface, the project owner shall provide the designated cultural resources specialist and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps provided will include the USGS *Otay Mesa* 7.5 minute topographic quadrangle map and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. If the designated cultural resource specialist requests enlargements or strip maps for linear facility routes, the project owner shall provide them. In addition, the project owner shall provide a set of these maps to the CPM at the same time that they are provided to the specialist. If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the cultural resources specialist and the CPM within five calendar days. Maps shall show the location of all areas where surface disturbance may be associated with project-related access roads, and any other project components.

Verification: At least 75 days prior to the start project-related vegetation clearance, or earth-disturbing activities or project site preparation on the project, or the movement or parking of heavy equipment onto or over the project surface, the project owner shall provide the designated cultural resources specialist and the CPM with final drawings and site layouts of all project facilities and maps at appropriate scale(s) for all areas potentially affected by project construction. Copies of maps or drawings reflecting any changes to the footprint of the power plant and/or linear facilities shall be submitted to the cultural resources specialist and the CPM within five calendar days of any changes.

CUL-3 Prior to the start of project-related vegetation clearance or earth-disturbing activities, or project site preparation, or the movement or parking of heavy equipment onto or over the project surface, the designated cultural resources specialist shall prepare, and the project owner shall submit to the CPM for review and written approval, a Cultural Resources Monitoring and Mitigation Plan (CRMMP), identifying general and specific measures to minimize potential impacts to sensitive cultural resources. Approval of the CRMMP by the CPM shall occur prior to any vegetation clearance or other earth-disturbing activities of construction or site preparation.

Protocol: The Cultural Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures:

- a. A proposed research design for both prehistoric and historical archaeology that includes a discussion of questions that may be answered by the mapping, data and artifact recovery conducted during monitoring and mitigation activities, and by the analysis of recovered data and materials.
- b. A discussion of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the pre-construction, construction, and post-construction analysis phases of the project;
- c. Identification of the person(s) expected to perform each of the tasks, a description of each team member's qualifications (including resumes) and responsibilities, the structure of the mitigation team, and the reporting relationships between project construction management and the monitoring and mitigation team. The cultural resources team shall include one member professionally qualified in historical or industrial archaeology;
- d. A discussion of the inclusion of Native American observers or monitors as part of the cultural resources team, the procedures to be used to select them, and their roles and responsibilities;
- e. Identification of each known significant or potentially significant cultural resource that may be affected by the project and the specific

measures that will be taken to mitigate any potential impacts to the resource. The discussion shall address how these measures will be implemented prior to the start of earth-moving activities and how long they will be needed to protect the resources from project-related effects. The discussion shall also address how compliance with the East Otay Mesa Specific Plan will be achieved by the mitigation efforts of this project.

- f. A discussion of where monitoring of project activities is deemed necessary by the designated cultural resource specialist. The specialist will determine the size or extent of the areas where monitoring is to occur and will establish the percentage of the time that the monitor(s) will be present. Monitoring shall be conducted along the reconductoring route for the transmission line to ensure that significant or potentially significant resources will be avoided during the reconductoring effort.
- g. A discussion of the requirement that all cultural resources encountered will be recorded and mapped (may include photos) and all significant or diagnostic resources will be collected for analysis and eventual curation into a retrievable storage collection in a public repository or museum that meets the State of California Guidelines for the Curation of Archaeological Collections.
- h. A discussion of the availability and the designated specialist's access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during earth-disturbing activities or construction; and
- i. Identification of the public repository in San Diego County that has agreed to receive any data and cultural resources recovered during project-related monitoring and mitigation work. The repository must meet the standards and requirements for curation of cultural resources set forth at Title 36 of the Code of Federal Regulations, Part 79. Also include a discussion of any requirements, specifications, or funding needed for the materials to be delivered for curation and how they will be met. Also include the name and phone number of the contact person at the institution.

Verification: At least 60 days prior to the start any project-related vegetation clearance or earth-disturbing activities or project site preparation or the movement or parking of heavy equipment onto or over the project surface, the project owner shall provide the CRMMP, prepared by the designated cultural resource specialist, to the CPM for review and approval.

CUL-4 Prior to the start of any project-related vegetation clearance, or earth-disturbing activities or project site preparation or the movement or parking of heavy equipment onto or over the project surface, the designated cultural

resources specialist shall prepare an employee training program. The project owner shall submit the cultural resources training program to the CPM for review and approval.

Protocol: The training program shall discuss the potential to encounter cultural resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources. The program shall include the set of resource reporting procedures and work curtailment procedures that workers are to follow if previously unknown cultural resources are encountered during project activities. The training program shall be presented by the designated cultural resource specialist or qualified member(s) of the cultural resources team approved by the CPM, and may be combined with other training programs prepared for biological resources, paleontologic resources, hazardous materials, or any other areas of interest or concern.

Verification: At least 60 days prior to the start of project-related vegetation clearance or earth-disturbing activities or project site preparation, or the movement or parking of heavy equipment onto or over the project surface, the project owner shall submit to the CPM for review and approval, the proposed employee training program, the set of reporting procedures, and the work curtailment procedures that the workers are to follow if previously unknown cultural resources are encountered during earth-disturbing activities or construction. The project owner shall provide the name and r sum of the individual(s) designated to perform the training.

CUL-5 Prior to the start of project-related vegetation clearance, or earth-disturbing activities or project site preparation or the movement or parking of heavy equipment onto or over the project surface and throughout the project construction period as needed for all new employees, the project owner shall ensure that the designated cultural resource trainer(s) provide(s) the CPM-approved cultural resources training to all project managers, construction supervisors, and workers. The project owner shall ensure that the designated trainer provides the workers with the CPM-approved set of procedures for reporting any sensitive resources that may be discovered during project-related ground disturbance and the work curtailment procedures that the workers are to follow if previously unknown cultural resources are encountered during earth-disturbing activities or construction.

Verification: Within 7 days of the start of project-related vegetation clearance, or earth-disturbing activities or project site preparation or the movement or parking of heavy equipment onto or over the project surface, the project owner shall provide the CPM with documentation that the designated cultural resources trainer(s) has/have provided to all project managers, construction supervisors, and workers hired before the start of earth disturbing activities, the CPM-approved cultural resources training and the set of reporting and work curtailment procedures.

In each Monthly Compliance Report after the start of earth-disturbing or earth moving activities, the project owner shall provide the CPM with documentation that the designated cultural resource trainer(s) has/have provided to all project managers hired in the month to which the report applies the CPM-approved cultural resources training and the set of reporting and work curtailment procedures.

CUL-6 The designated cultural resource specialist, alternate cultural resource specialist or the specialist's delegated monitor(s) shall have the authority to halt or redirect earth-disturbing activities or construction, if previously unknown cultural resource sites or materials are encountered or if an unforeseen impact to an identified cultural resource is recognized during project-related land clearing, grading, augering, excavation or other earth-disturbing activities. Cultural resources monitors shall be members of the cultural resources team with a background and experience appropriate to the project area being monitored.

If such resources are found or an unforeseen impact is recognized, the halting or redirection of construction shall remain in effect until:

- a. The specialist has notified the project owner and the CPM of the find and the work stoppage;
- b. The specialist, project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and
- c. Any needed data recovery and mitigation has been completed.

Protocol: The designated cultural resources specialist, the project owner, and the CPM shall confer within five working days of the notification of the CPM to determine what, if any, data recovery or other mitigation is needed.

If data recovery or other mitigation measures are required, the designated cultural resource specialist and team members shall monitor earth-disturbing and construction activities and implement the agreed upon data recovery and mitigation measures, as needed.

All required data recovery and mitigation shall be completed expeditiously unless all parties agree to additional time.

Verification: At least 30 days and no less than 10 days prior to the start of project-related vegetation clearance, or earth-disturbing activities or project site preparation or the movement or parking of heavy equipment onto or over the project surface, the project owner shall provide the CPM with a letter confirming that the designated cultural resources specialist, and/or alternate cultural resource specialist and delegated monitor(s) have the authority to halt earth-disturbing or construction activities in the vicinity of a cultural resource find.

For any cultural resource encountered, the project owner shall notify the CPM within 24 hours unless there is an intervening weekend. If there is an intervening weekend, the project owner shall notify the CPM on the Monday following the weekend.

CUL-7 Prior to the start of any project-related vegetation clearance, or earth-disturbing activities or project site preparation or the movement or parking of heavy equipment onto or over the project surface, and each week throughout the project construction period, the project owner shall provide the designated cultural resource specialist with a current schedule of anticipated project activity in the following month and a map indicating the area(s) where ground disturbing or construction activities will occur or where other specialists may be conducting mitigation measures. The designated cultural resources specialist shall consult daily with the project superintendent or construction field manager to confirm the area(s) to be worked on the next day(s).

Verification: At least 10 days prior to the start of project-related vegetation clearance, earth-disturbing activities or project site preparation or the movement or parking of heavy equipment onto or over the project surface, and in each Monthly Compliance Report thereafter, the project owner shall provide the CPM with a copy of the weekly schedule of the construction activities. The project owner shall notify the CPM when all ground disturbing activities, including landscaping, are completed.

CUL-8 Throughout the pre-construction reconnaissance surveys and the monitoring and mitigation phases of the project, the designated cultural resources specialist and/or alternate cultural resource specialist and delegated monitor(s) shall keep a daily log of any resource finds, and the progress or status of the resource monitoring, collections, mitigation, preparation, identification, and analytical work being conducted for the project. The daily logs shall indicate by tenths of a post mile, where and when monitoring has taken place, where monitoring has been deemed unnecessary, and where cultural resources were found.

Protocol: The designated specialist shall prepare a weekly summary of the daily logs on the progress or status of cultural resource-related activities.

The designated resource specialist and delegated monitor(s) may informally discuss the cultural resource monitoring and mitigation activities with Commission technical staff.

Verification: Throughout any project-related vegetation clearance, or earth-disturbing activity or project site preparation or the movement or parking of heavy equipment onto or over the project surface, and the project construction period, the project owner shall ensure that the daily logs and weekly summary reports prepared by the designated cultural resource specialist and delegated monitor(s) are available for periodic audit by the CPM. Upon request, the project owner shall provide specified weekly summary reports to the CPM.

CUL-9 The designated cultural resource specialist or designated monitor(s) shall be present at all times the specialist deems appropriate to monitor construction-related grading, excavation, trenching, augering, or other disturbance of existing surface in the vicinity of previously recorded archaeological sites and in areas where cultural resources have been identified or are potentially present.

Protocol: If the designated cultural resource specialist determines that full-time monitoring is not necessary in certain portions of the project area or along portions of the linear facility routes, the designated specialist shall notify the project owner of the changes. The designated cultural resource specialist shall use milepost markers and boundary stakes placed by the project owner to identify areas where monitoring is being reduced or is no longer deemed necessary.

Verification: Throughout the project pre-construction and construction period the project owner shall include in the Monthly Compliance Reports to the CPM copies of the weekly summary reports prepared by the designated cultural resource specialist regarding project-related cultural resource monitoring.

CUL-10 The project owner shall ensure that the designated cultural resource specialist performs the recovery, preparation for analysis, analysis, preparation for curation, and delivery for curation of all cultural resource materials encountered, collected, and developed during pre-construction surveys, evaluation, monitoring, and data recovery, including maps, documentation of mitigation activities, catalogues, and reports related to the project.

Protocol: The project owner shall maintain in its compliance files, copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate research specialists which will ensure the necessary recovery, preparation for analysis, and analysis of cultural resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for the life of the project and the files shall be kept available for periodic audit by the CPM. Information as to the specific location of sensitive cultural resource sites shall be kept confidential and accessible only to qualified cultural resource specialists.

CUL-11 Following completion of data recovery and site mitigation work the project owner shall ensure that the designated cultural resource specialist completes a proposed scope of work for the Cultural Resources Report. The project owner shall submit the proposed scope of work to the CPM for review and written approval.

Protocol: The proposed scope of work shall include, but will not be limited to:

- a. A discussion of any analysis to be conducted on recovered cultural resource materials;

- b. Discussion of possible results and findings;
- c. Proposed research questions which may be answered or raised by analysis of the data recovered from the project; and
- d. An estimate of the time needed to complete the analysis of recovered cultural resource materials and to prepare the Cultural Resources Report.

Verification: The project owner shall ensure that the designated cultural resources specialist completes the proposed scope of work within 90 days following completion of the data recovery and site mitigation work. Within 7 days after completion of the proposed scope of work, the project owner shall submit it to the CPM for review and written approval.

CUL-12 The project owner shall ensure that the designated cultural resource specialist prepares a Cultural Resources Report. The project owner shall submit the report to the CPM for review and written approval.

Protocol: The Cultural Resources Report shall include, but will not be limited to, the following:

- a. For all projects:
 - 1. description of pre-project literature search, any surveys, and any testing activities;
 - 2. maps showing any areas surveyed or tested;
 - 3. a description of any monitoring activities;
 - 4. maps of any areas monitored; and
 - 5. conclusions and recommendations.
- b. For projects regarding which cultural resources were encountered, include the items specified under a and also provide:
 - 1. Site and isolate records and maps;
 - 2. a description of testing for, and recommended determinations of, significance and eligibility of sites; and
 - 3. a discussion of the research questions answered or raised by the data from the project.
- c. For projects regarding which cultural resources were recovered, include the items specified under a and b and also provide:
 - 1. a description of the methods employed in the field and laboratory;
 - 2. a description (including drawings and/or photos) of recovered cultural materials;
 - 3. results and findings of any special analyses conducted on recovered cultural resource materials;

4. an inventory list of recovered cultural resource materials;
5. an interpretation of the site(s) with regard to the research design; and
6. the name and location of the public repository receiving the recovered cultural resources for curation.

Verification: The project owner shall ensure that the designated cultural resources specialist completes the Cultural Resources Report within 90 days following completion of the analysis of the recovered cultural materials. Within 7 days after completion of the report, the project owner shall submit the Cultural Resources Report to the CPM for review and written approval.

CUL-13 The project owner shall submit an original, an original-quality copy, and a computer disc copy of the CPM-approved Cultural Resource Report to the public repository to receive the recovered data and materials for curation (or other format to meet the repository's requirements), with copies to the State Historic Preservation Officer (SHPO), the appropriate regional archaeological information center(s), and a person employed by the County of San Diego who is authorized to receive confidential cultural resources information. If the report is submitted to any of these entities on a computer disc, the disc files must meet SHPO requirements for format and content.

Protocol: The copies of the Cultural Resource Report to be sent to the curation repository, the SHPO, and the regional information center(s), shall include the following based on the applicable scenario (1, 2, or 3) set forth in Condition Cul-12:

- a. Originals or original-quality copies of all text;
- b. Originals of any topographic maps showing site and resource locations;
- c. Originals or original-quality copies of drawings of significant or diagnostic cultural resource materials found during pre-construction surveys or during project monitoring and mitigation and subjected to post-recovery analysis and evaluation; and
- d. Photographs of the site(s) and the various cultural resource materials recovered during project monitoring and mitigation and subjected to post-recovery analysis and evaluation. The project owner shall provide the curation repository with a set of negatives for all of the photographs.

Verification: Within 30 days after receiving approval of the Cultural Resources Report, the project owner shall provide to the CPM documentation that the report has been sent to the public repository receiving the recovered data and materials for curation, the SHPO, the appropriate archaeological information center(s), and to a person employed by the County of San Diego, authorized to receive confidential cultural resources information.

For the life of the project the project owner shall maintain in its compliance files copies of all documentation related to the filing of the CPM-approved Cultural Resources Report with the public repository receiving the recovered data and materials for curation.

CUL-14 Following the filing of the CPM-approved Cultural Resource Report with the public repository receiving the recovered data and materials, the project owner shall ensure that all cultural resource materials, maps, and data collected during data recovery and mitigation for the project are delivered to the repository. The project owner shall pay any fees for curation required by the repository.

Protocol: The project owner shall ensure that all recovered cultural resource materials are delivered for curation within 30 days after providing the CPM-approved Cultural Resource Report to the public repository receiving the recovered data and materials, to the SHPO, to the appropriate archaeological information center(s), and to a person employed by the County of San Diego, authorized to receive confidential cultural resources information.

Verification: For the life of the project, the project owner shall maintain in its compliance files, copies of signed contracts or agreements with the public repository to which the project owner has delivered for curation all cultural resource materials collected during data recovery and mitigation for the project.

CUL-15 Prior to the start of any construction-related vegetation clearance, earth disturbing activities or project site preparation, the project owner and the designated cultural resource specialist shall consult with Native American tribal representatives to develop an agreement(s) for qualified (specified in the NAHC Guidelines for Monitoring) monitors. The monitors must be present during earth disturbing activities associated with the project whenever prehistoric cultural resource monitoring activities are conducted.

Verification: At least 30 days prior to the start of project-related vegetation clearance or earth disturbing activities and preparation, the project owner shall provide the CPM with a copy of all finalized agreements for Native American monitors. If efforts to obtain the services of qualified tribal monitors prove unsuccessful, the project owner shall immediately inform the CPM who will initiate a resolution process.

CUL-16 When the project owner obtains a Section 404 Nationwide Permit from the US Army Corps of Engineers, the project owner shall then consult with that agency and the CPM regarding compliance with Section 106 of the National Historic Preservation Act and any cultural resources mitigation activity.

Verification: The project owner shall submit a copy of the Section 404 Permit in the next monthly compliance report after the permit is obtained. If cultural resources mitigation activity is necessary, after completion of the mitigation activity, the project owner shall provide written documentation of the activity within 30 days to the permitting agency and to the CPM in the next Monthly Compliance Report following the completion of that activity.

D. GEOLOGY AND PALEONTOLOGY

This section reviews the project's potential impacts on significant geological and paleontological resources, and surface water hydrology. The analysis also evaluates whether project-related activities would potentially result in public exposure to geological hazards; and if so, whether proposed mitigation measures would adequately protect public health and safety.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The site is located adjacent to the western slope of Mount San Ysidro, which is part of the Peninsular Range geomorphic province. (Ex. 64, p. 274.) The underlying sedimentary elements, described as the Otay Formation, include depositions that range from continental alluvial fan-derived sediments to subaerial floodplain to marine terrace sediments. (Ex. 1, / 5.8.1.1; Appendix K [Paleontological Resource Technical Report].) Staff characterized the site as mantled in quaternary alluvium and silty to clayey sandstone with an unnamed fan conglomerate, a dense alluvial deposit of heterogeneous soil and rock underlying the sandstone deposition. (Ex. 64, pp. 274, 276.) According to Applicant, the regional geologic structure reflects the stabilizing influence of the Jurassic basement, which acts as a rigid platform for the sedimentary formations of the Otay Formation. (Ex. 1, / 5.3.1.1.1.)

1. Potential for Seismic Events

The Otay Mesa area is bounded by the La Nacion fault zone that extends from the border with Mexico northwest to Mission Valley. The nearest portion of this fault zone, which is a relatively low activity fault but considered potentially active, is about 6 miles west of the site. (Ex. 1, / 5.3.1.1.1.) The closest known active faults are part of the Rose Canyon fault zone located in the San Diego Bay about 12 miles west of the site. (*Ibid.*) Applicant's review indicated that no known

active faults cross the power plant footprint or the reconductoring corridor. (Id.,/ 5.3.1.1.5 et seq.) Staff concurred with this assessment. (Ex. 64, p. 275.) The project will be designed to withstand strong seismic ground shaking in accordance with California Building Code standards for seismic zone 4. (Ex. 1,/ 5.3.1.1.7; see the **Facility Design** section of this Decision.)

Applicant conducted a site-specific study to determine the potential for ground rupture, liquefaction, soil erosion, landslides, and hydrocompaction in soils beneath or adjacent to project components and linear facilities that would present potential hazards associated with strong seismic shaking and/or unusual water infusion. (Ex. 7; Ex. 1,/5.3.1.1.7 et seq.) Final project design will incorporate measures to mitigate any potential seismic damage resulting from these geological phenomena. (Ex. 1, Appendix G.) Condition **GEO-2** requires the project owner to submit a final Engineering Geology Report.

2. Potential for Flooding

There are no permanent surface water bodies located on or adjacent to the site. (Ex. 64, p. 274.) The project site is located in zone C , an area of minimal flooding as depicted on the Federal Emergency Management Agency Flood Insurance Rate Map. Minimum grade for the power plant area will be 5% and all drainage will be directed away from buildings within the footprint. A stormwater retention pond will be constructed onsite and a portion of the onsite drainage will be captured in an ephemeral stream channel onsite and discharged off site to the south. According to Staff s analysis, the 50-year 24-hour storm event precipitation amount is 5 inches and run-off during such an event should not overwhelm the capacity of the project s surface water drainage system. (Ex. 64, p. 277.) Condition **GEO-2** requires Applicant s grading and drainage plan to comply with California Building Code (CBC) standards.

3. Potential Impacts to Geological/Paleontological Resources

No geological resources were identified at the site or along the linear facility corridors. (Ex. 64, p. 276.) Further, no in-situ paleontological resources were found during the course of Applicant's field surveys. (Ex. 1, Appendix K.) Applicant indicated that alluvium and other soil formations in the vicinity have low to moderate paleontological sensitivity ratings, except for the highly sensitive Otay Member area north of Telegraph Canyon along a portion of the reconductoring corridor. (Ex. 1, 5.8.1.2.1 et seq., Table 5.8-2; Ex. 64, p. 277.) Conditions **PAL-1** through **PAL-7** will ensure that impacts on paleontological resources will be reduced to insignificant levels should they be encountered during project-related activities. These conditions require the project owner to implement a Paleontological Resources Monitoring and Mitigation Plan to minimize impacts to undiscovered fossil materials at the site and along the linear alignments.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The project and linear facilities are located in seismic zone 4, which presents significant earthquake hazards.
2. The project and linear facilities will be designed to withstand strong earthquake shaking in accordance with the California Building Code.
3. Final project design will include measures to mitigate potential risk from ground rupture and liquefaction associated with strong seismic shaking.
4. Final project design will include measures to mitigate the potential for hydrocompaction and expansive soils.
5. Potential flooding of the site will be mitigated by drainage measures incorporated into project design.

6. There is no evidence of surface water bodies onsite and no indication that the project would cause significant adverse impacts to surface water hydrology.
7. There is no evidence of geological or paleontological resources at the project site or along the linear facility corridors.
8. To prevent impacts to unknown sensitive paleontological resources, the project owner will implement a Paleontological Resources Monitoring and Mitigation Plan.
9. With implementation of the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards relating to geology and paleontological resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that Implementation of the Conditions of Certification, below, ensure that project activities will not cause adverse impacts to either geological or paleontological resources or expose the public to geological hazards.

CONDITIONS OF CERTIFICATION

GEO-1 Prior to the start of project grading and excavation, the project owner shall assign to the project an engineering geologist(s), certified by the State of California, to carry out the duties required by the 1998 edition of the California Building Code (CBC) Appendix Chapter 33, Section 3309.4. The certified engineering geologist(s) assigned must be approved by the CPM. The functions of the engineering geologist can be performed by the responsible geotechnical engineer, if that person has the appropriate California license.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the Chief Building Official (CBO)) prior to the start of project grading and excavation, the project owner shall submit to the CPM for approval the name(s) and license number(s) of the certified engineering geologist(s) assigned to the project. The submittal should include a statement that CPM approval is needed. The CPM will approve or disapprove of the engineering geologist(s) and will notify the project owner of its findings within 15 days of receipt of the submittal. If the engineering geologist(s) is subsequently replaced, the project owner shall submit for approval the name(s) and license number(s) of the newly assigned individual(s) to the CPM. The CPM will approve

or disapprove of the engineering geologist(s) and will notify the project owner of the findings within 15 days of receipt of the notice of personnel change.

GEO-2 The assigned engineering geologist(s) shall carry out the duties required by the 1998 CBC, Appendix Chapter 33, Section 3309.4 Engineered Grading Requirement, and Section 3318.1 — Final Reports. Those duties are:

1. Prepare the Engineering Geology Report. This report shall accompany the Plans and Specifications when applying to the CBO for the grading permit.
2. Monitor geologic conditions during construction.
3. Prepare the Final Engineering Geology Report.

Protocol: The Engineering Geology Report required by the 1998 CBC Appendix Chapter 33, Section 3309.3 Grading Designation, shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy of the site for the intended use as affected by geologic factors.

The Final Engineering Geology Report to be completed after completion of grading, as required by the 1998 CBC Appendix Chapter 33, Section 3318.1, shall contain the following: A final description of the geology of the site and any new information disclosed during grading; and the effect of same on recommendations incorporated in the approved grading plan. The engineering geologist shall submit a statement that, to the best of his or her knowledge, the work within their area of responsibility is in accordance with the approved Engineering Geology Report and applicable provisions of this chapter.

Verification: (1) Within 15 days after submittal of the application(s) for grading permit(s) to the CBO, the project owner shall submit a signed statement to the CPM stating that the Engineering Geology Report has been submitted to the CBO as a supplement to the plans and specifications and that the recommendations contained in the report are incorporated into the plans and specifications. (2) Within 90 days following completion of the final grading, the project owner shall submit copies of the Final Engineering Geology Report required by the 1998 CBC Appendix Chapter 33, Section 3318 Completion of Work, to the CPM and the CBO.

PAL-1 Prior to the start of any project-related grading and excavation activities (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities), the project owner shall ensure that the designated paleontological resource specialist approved by

the CPM is available for field activities and prepared to implement the conditions of certification.

The designated paleontological resources specialist shall be responsible for implementing all the paleontological conditions of certification and for using qualified personnel to assist in this work.

Protocol: The project owner shall provide the CPM with the name and statement of qualifications for the designated paleontological resource specialist.

The statement of qualifications for the designated paleontological resources specialist shall demonstrate that the specialist meets the following minimum qualifications: a degree in paleontology or geology or paleontological resource management; and at least three years of paleontological resource mitigation and field experience in California, including at least one year s experience leading paleontological resource mitigation and field activities.

The statement of qualifications shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist s work on these referenced projects.

If the CPM determines that the qualifications of the proposed paleontological resource specialist do not satisfy the above requirements, the project owner shall submit another individual s name and qualifications for consideration.

If the approved, designated paleontological resource specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resource specialist by submitting the name and qualifications of the proposed replacement to the CPM, at least ten (10) days prior to the termination or release of the preceding designated paleontological resource specialist.

Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

Verification: At least 60 days prior to the start of project grading and excavation, the project owner shall submit the name and resume and the availability for its designated paleontological resource specialist, to the CPM for review and approval. The CPM shall provide written approval or disapproval of the proposed paleontological resource specialist.

At least 10 days prior to the termination or release of a designated paleontological resource specialist, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and resume of

the proposed new designated paleontological resource specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

PAL-2 Prior to the start of project grading and excavation, the designated paleontological resource specialist shall prepare a Paleontological Resources Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive paleontological resources, and submit this plan to the CPM for review and approval. After CPM approval, the project owner's designated paleontological resource specialist shall be available to implement the Monitoring and Mitigation Plan, as needed, throughout project construction.

Protocol: In addition to the project owner's adoption of the guidelines of the Society of Vertebrate Paleontologists (SVP 1994) the Paleontological Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures:

- A discussion of the sequence of project-related tasks, such as any pre-construction surveys, fieldwork, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation;
- Identification of the person(s) expected to assist with each of the tasks identified within this condition for certification, and a discussion of the mitigation team leadership and organizational structure, and the inter-relationship of tasks and responsibilities;
- Where monitoring of project construction activities is deemed necessary, the extent of the areas where monitoring is to occur and a schedule for the monitoring;
- An explanation that the designated paleontological resource specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined;
- A discussion of equipment and supplies necessary for recovery of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;

- Inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontologists standards and requirements for the curation of paleontological resources; and
- Identification of the institution that has agreed to receive any data and fossil materials recovered during project-related monitoring and mitigation work, discussion of any requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution.

Verification: At least 30 days prior to the start of project grading and excavation, the project owner shall provide the CPM with a copy of the Monitoring and Mitigation Plan prepared by the designated paleontological resource specialist for review and approval. If the plan is not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes.

PAL-3 Prior to the start of project grading and excavation, and throughout the project construction period as needed for all new employees, the project owner and the designated paleontological resource specialist shall prepare and conduct CPM-approved training to all project managers, construction supervisors, and workers who operate ground disturbing equipment. The project owner and construction manager shall provide the workers with the CPM-approved set of procedures for reporting any sensitive paleontological resources or deposits that may be discovered during project-related ground disturbance.

Protocol: The paleontological training program shall discuss the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by the designated paleontological resource specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

Verification: At least 30 days prior to the start of project grading and excavation, the project owner shall submit to the CPM for review, comment, and written approval, the proposed employee training program and the set of reporting procedures the workers are to follow if paleontological resources are encountered during project grading and construction activities.

If the employee training program and set of procedures are not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes, before the beginning of construction.

Documentation for training of additional new employees shall be provided in subsequent Monthly Compliance Reports, as appropriate.

PAL-4 The designated paleontological resource specialist or his/her designated monitor shall be present at all times he or she deems appropriate to monitor construction-related grading, excavation, trenching, and/or augering in areas where potentially fossil-bearing sediments have been identified. If the designated paleontological resource specialist determines that full-time monitoring is not necessary in certain portions of the project area or along portions of the linear facility routes, the designated specialist shall so notify the project owner.

Verification: The project owner shall include in the Monthly Compliance Reports a summary of paleontological activities conducted by the designated paleontological resource specialist.

PAL-5 The project owner, through the designated paleontological resource specialist, shall ensure recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the designated paleontological resource specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation for and delivery of all significant paleontological resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

PAL-6 The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resource specialist. The Paleontological Resources Report shall be completed following completion of the analysis of the recovered fossil materials and related information. The project owner shall submit the paleontological report to the CPM for approval.

Protocol: The report shall include (but not be limited to) a description and inventory list of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the paleontological resource specialist that project impacts to paleontological resources have been mitigated.

Verification: The project owner shall submit a copy of the Paleontological Resources Report to the CPM for review and approval under a cover letter stating that it is a confidential document. The report is to be prepared by the designated paleontological resource specialist within 90 days following completion of the analysis of the recovered fossil materials.

PAL-7 The project owner shall include in the facility closure plan a description regarding the potential of facility closure activities to impact paleontological resources. The conditions for closure will be determined when a facility closure plan is submitted to the CPM twelve months prior to closure of the facility. If no activities are proposed that would potentially impact paleontological resources, then no mitigation measures for paleontological resource management are required in the facility closure plan.

Protocol: The closure requirements for paleontological resources are to be based upon the Paleontological Resources Report and the proposed grading activities for facility closure.

Verification: The project owner shall include a description of closure activities described above in the facility closure plan.

VIII. LOCAL IMPACT ASSESSMENT

All aspects of a power plant project affect to some degree the community in which it is located. The impact on the local area depends upon the nature of the community and the extent of the associated impacts. Technical topics discussed in this portion of the Decision consider issues of local concern, including land use, traffic and transportation, visual resources, noise, and socioeconomics.

A. LAND USE

The land use analysis focuses on two main issues: 1) whether the project is consistent with local land use plans, ordinances, and policies; and 2) whether the project is compatible with existing and planned land uses.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The San Diego General Plan, the Otay Subregional Plan, the Sweetwater Community Plan, the East Otay Mesa Specific Plan, the East Otay Mesa Site Planning and Design Guidelines, and the Draft Comprehensive Land Use Plan for Brown Field are the ordinances and policies relevant to the OMGP. (Ex. 65, p. 77.)

1. The Site

The project site is located on the eastern portion of the Otay Mesa in southwestern San Diego County, approximately 15 miles southeast of the City of San Diego and about 1.5 miles north of the US/Mexico border. The power plant will occupy roughly 15 acres of a 46-acre site (which currently resides within a larger 79 acre parcel) located approximately 800 feet east of Alta Road and 1,500 feet north of Otay Mesa Road. (Ex. 65, p. 79.) Currently, the site is undeveloped and, along with the linear facilities, does not involve irrigated

agricultural lands. However, several portions of the project site and linear facilities qualify as either Prime Farmland or Farmland of Statewide Importance. (Ex. 65, p. 80.)

Land uses within a 1-mile radius around the plant site include undeveloped, industrial, residential, commercial, institutional, and governmental. Land use designations within a 1-mile radius around the plant site include Residential, Industrial, Commercial, Impact Sensitive, and Public/Semi Public. (Ex. 4, / 5.9.1.2.1.)

The project will receive natural gas via two underground pipelines: 1) a 2.05 mile pipeline that would be constructed within existing roadways or along the routes of planned roadways (Route 2A); or 2) a pipeline that would run within the Miguel-Tijuana transmission line right-of-way (Route 2B).

Interconnection of the project with the existing Miguel Substation will require that a 9.05-mile section of the Miguel-Tijuana transmission line between the project and the Substation be reconductored. Water will be supplied to the project through an underground 0.2-mile pipeline connection to an existing water main in Alta Road. Wastewater will be discharged through either a 2.0 mile underground pipeline interconnecting in Johnson Canyon (Route 4), or a variation of the above traveling along the route of two planned County roads (Route 4A). (Ex. 65, p. 83.)

Electric transmission lines and gas and water pipelines are classified as essential services by the San Diego County Zoning Ordinance. Essential services are permitted uses within all zoning districts in the East Otay Mesa Specific Plan area. In addition, the County Zoning Ordinance permits essential services in all zoning districts to be traversed by the project linears. (Ex. 65, p. 98.)

Access to the site will be made through two roads: 1) a .15-mile road connecting the northwest corner of the power plant site with Alta Road and paralleling a short segment of a trail corridor associated with the proposed Otay River Valley Regional Park (Route 5); and 2) a .2-mile road connecting the southwest corner of the power plant site to Alta Road and following the same route as the potable water supply line and portions of the natural gas pipeline. Both routes traverse undeveloped land planned for mixed industrial uses. (Ex. 65, p. 83.)

2. Parcel Map

Originally, Applicant intended to purchase the plant site after it had been subdivided from the existing 79-acre parcel. (Ex. 74, p. 8.) Under the California Subdivision Map Act, if a parcel is created for the purpose of lease, sale, or finance, it must comply with the provisions of the Act as well as the San Diego County Code of Regulatory Ordinances. Applicant filed a tentative parcel map with the County on November 8, 2000. (Ex. 74, p. 8.) However, due to the length of time required to process the parcel map, Applicant has decided to purchase the entire larger parcel, process the tentative parcel map, and convey back to the seller the two parcels other than the 46-acre plant site. This is to ensure that construction is not delayed due to the parcel map process. (Ex. 113, p. 1.)

To ensure that Applicant complies with the County's parcel map requirements, Condition **LAND-7** requires Applicant to obtain approval of a Tentative Parcel Map and record a parcel map for the three lots previously described. (Ex. 74, p. 9.)

3. Growth Inducement

The wastewater pipeline proposed by Applicant had been planned for and included in the East Otay Mesa Specific Plan, and the growth-inducing effects of this pipeline were analyzed and discussed in the East Otay Mesa Specific Plan Final Environmental Impact Report. (Ex. 64, p. 369.) Under CEQA, it was not necessary to analyze the growth-inducing effects of a project if that project is already analyzed in local planning documents. [*City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.2d 1142 (9th Cir. 1997)]

4. Potential Impacts

Development of the power plant would preclude use of the site for agriculture. However, the site has not been actively farmed for the last five years or more. Also, the Final EIR for the East Otay Mesa Specific Plan concluded that full build-out of the Specific Plan area would have a less than significant impact on the County's agricultural resources. In addition, the short transmission lines and underground pipelines would not preclude interim agricultural use in the areas they would traverse. (Ex. 65, p. 94.) The record of evidence establishes that development of OMGP on this property would have a less than significant impact on the County's agricultural resources. (Ex. 65, p. 103.)

Construction laydown areas for the power plant would be located within the 46-acre site. Because the use of laydown areas would be temporary and would not displace any existing use, the impact would not be significant. (Ex. 65, p.103) Construction-related impacts from reconductoring the transmission line and from laying the pipelines will also be insignificant due to the temporary nature of such impacts. (Ex. 4, // 5.9.2.3.1, 5.9.2.4.1.)

The power plant will be compatible with the character of the land uses envisioned for the area. (Ex. 65, p. 107.) The project is consistent with the East Otay

Mesa s specific plan land use and zoning designations for the subject parcel. (12/4/00 RT 48: Testimony of Eric Knight.)

The power plant would not conflict with the alignment of a proposed trail associated with the Otay River Valley Regional Open Space Park. (Ex. 65, p. 103.)

The project will exceed the allowable height limit of 60 feet in the mixed industrial zoning district. However, the County indicated that if it were the permitting agency, it would grant a height variance to the project subject to certain conditions. (12/04/00 RT 49: Testimony of Eric Knight.) These conditions are incorporated here as Conditions **LAND-1** and **LAND-2**.

There is no evidence to indicate that the project will trigger adjacent development that would cause further agricultural land conversion. The proposed project will be a small component of the overall development of the East Otay Mesa area, and would not contribute substantially to the intensification of land use in the area or to the cumulative loss of agricultural land. In light of these circumstances the cumulative impact of the project is less than significant. (Ex. 65, p.105.)

The Conditions of Certification are designed to ensure compatibility with adjacent and nearby land uses and to ensure compliance with the general plan and zoning regulations.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Otay Mesa Generating Project is consistent with the policies expressed in The San Diego General Plan, the Otay Subregional Plan, the Sweetwater Community Plan, the East Otay Mesa Specific Plan, the East

Otay Mesa Site Planning and Design Guidelines, and the Draft Comprehensive Land Use Plan for Brown Field.

2. San Diego County's zoning conditions of approval, which would otherwise be imposed if the county were the permitting agency, have been incorporated in Condition of Certification **LAND-1 and LAND-2**.
3. The project's linear components are permitted uses under the San Diego County Zoning Ordinance and the East Otay Mesa Specific Plan.
4. The project is compatible with existing and planned land uses.
5. The project does not physically divide an established community.
6. The site has been historically used for agriculture, but is not currently being utilized as agricultural land.
7. Use of the site to construct and operate the project will not adversely affect agricultural production in San Diego County or initiate eventual development of the surrounding area.
8. The project's potential cumulative impacts on agricultural lands are insignificant.
9. Implementation of the Conditions of Certification, below, ensures that the project will comply with all applicable laws, ordinances, regulations, and standards relating to land use as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that the project will not create any significant direct, indirect, or cumulative adverse land use impacts.

CONDITIONS OF CERTIFICATION

LAND-1 The project owner shall design and construct the project to satisfy the following setback requirements:

- The structural setback from the northern property line shall be no less than 199 feet, unless a lesser setback is mutually agreed to by the Chief Building Official (CBO) and the California Energy Commission Compliance Project Manager (CPM), in consultation with the County of San Diego.

- The structural setback from the southern property line shall be no less than 299 feet, unless the CBO and the CPM, in consultation with the County of San Diego, mutually agree to a lesser setback.
- The distance between the driveways and the interior lot lines shall be no less than 15 feet.

Protocol: The project owner shall submit to the CBO a final plot plan demonstrating that the setbacks will be provided. The project owner shall not start construction of the project until the project owner receives written approval of the final plot plan from the CBO.

Verification: At least 60 days prior to the start of construction, the project owner shall submit the final plot plan to the CBO. The project owner shall send copies of the CBO's approvals of the final plot plan to the Energy Commission Compliance Project Manager (CPM) in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

LAND-2 The project owner shall design and construct the project to meet the following height requirements, unless otherwise mutually agreed to by the CBO and the CPM, in consultation with the County of San Diego:

- The heat recovery steam generators shall be limited to 65 feet above finished grade.
- The heat recovery steam generator stacks shall be limited to 131 feet above finished grade.
- The generation buildings shall be limited to 70 feet above finished grade.
- The air-cooled condensers shall be limited to 76 feet above finished grade.

Protocol: The project owner shall submit to the CBO final design specifications demonstrating that the specified structures and facilities will be limited to the specified heights. The project owner shall not start construction of the project until the project owner receives written approval of the final design plans from the CBO.

Verification: At least 60 days prior to the start of construction, the project owner shall submit the final design specifications to the CBO. The project owner shall send copies of the CBO approval of the design specifications to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

LAND-3 The project owner shall provide 34 onsite parking spaces. Loading areas shall be provided at the Warehouse/Mech Shop and the Water Treatment Building.

Verification: At least 30 days prior to construction of the permanent parking area and loading areas, the project owner shall submit evidence to the CPM for review and approval that the specified number of parking spaces and loading areas are provided.

The project owner shall notify the CPM within 7 days after completion of the permanent parking and loading areas that the parking and loading areas are ready for inspection.

LAND-4 The project owner shall design and construct all fences and walls to a maximum height of 8 feet above finished grade.

Verification: At least 30 days prior to construction of all fences and walls, the project owner shall submit design specifications to the CPM for review and approval.

The project owner shall notify the CPM within 7 days after completion of the fences and walls that the fences and walls are ready for inspection.

LAND-5 The project owner shall ensure that any proposed signs comply with the Industrial Signage Guidelines contained in the East Otay Mesa Site Planning and Design Guidelines.

Verification: At least 30 days prior to the installation of any signs, the project owner shall submit evidence to the CPM for review and approval that the proposed signs will conform to the guidelines. The submittal shall show the location of all proposed signs. The submittal to the CPM shall include evidence of review and comment by the County.

The project owner shall notify the CPM within 7 days after installation of the signs that the signs are ready for inspection.

LAND-6 The project owner shall replace segment G-L of the proposed wastewater discharge pipeline (Route 4) with alternative segment Route 4A, unless the project owner provides evidence that the nonconformity of the proposed wastewater discharge pipeline segment (G-L) with the East Otay Mesa Specific Plan has been resolved to the satisfaction of the County of San Diego.

Verification: At least 60 days prior to the construction of the wastewater discharge pipeline, the project owner shall provide to the CPM for review and approval either a statement that segment Route 4A will replace segment G-L of the proposed wastewater discharge pipeline, or a letter from the County of San Diego that the nonconformity with the East Otay Mesa Specific Plan has been resolved.

LAND-7 The project owner shall obtain approval of a Tentative Parcel Map from the San Diego County Department of Planning and Land Use and record a parcel map for the three lots shown in the March 2000 Supplement to the AFC (Ex. 17, Fig. 3.5-1).

Verification: The project owner shall transmit a copy of the approved Tentative Parcel Map to the California Energy Commission Compliance Project Manager (CPM) within 7 days of the County's approval. Within 7 days after recording the parcel map with the Office of the County Recorder, the project owner shall submit a copy of the recorded parcel map to the CPM.

B. TRAFFIC AND TRANSPORTATION

The project will impact the transportation system in the local area. During the construction phase, workers arriving and leaving at peak traffic hours, and the transportation of large pieces of equipment, will increase roadway congestion and impact traffic flow. Activities associated with building the linear facilities may also be disruptive. During plant operation, there is a reduced potential for impacts due to the limited number of vehicles involved.

The evidentiary record contains extensive information regarding the roads and routings that will be used; the potential traffic problems associated with those routes; the anticipated number of deliveries of oversized/overweight equipment; the anticipated encroachments upon public rights-of-way; the frequency of, and routes associated with the delivery of hazardous materials; and the availability of alternative transportation methods.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is located approximately 15 miles southeast of the City of San Diego and 1.5 miles north of the U.S./Mexico border, near the intersection of Otay Mesa and Alta Roads. (Ex. 65, p. 115.)

The site is reached from the west on State Route (SR) 905 which is a west/east highway that originates at Interstate I-5 about 7 miles south of San Diego. SR-905 proceeds east past the intersection with La Media Road before turning south to the Otay Mesa Port of Entry into Mexico. Otay Mesa Road proceeds east from its intersection with SR-905 until reaching Alta Road. The site can be reached by proceeding north on Alta Road. An asphalt-paved access road will be constructed from Alta Road to the proposed site. The administration building parking lot and the road encircling the power plant's outer perimeter will also be asphalt-paved. (Ex. 65, p. 115.)

Two primary highways, I-5 and I-805, provide regional access to the plant site. I-5 is an eight-lane, north-south freeway that stretches from Mexico to the Canadian border. It is one of the major highways in California and connects San Diego to the Los Angeles area and regions to the north. I-805 is an eight-lane, north-south freeway that begins just north of the Mexican border and runs roughly parallel to I-5 until it merges with I-5 north of San Diego near the City of Del Mar. It reduces traffic flows on I-5 and provides access to areas east of San Diego. (Ex. 65, p. 116.)

TRAFFIC AND TRANSPORTATION Table 1, below, identifies the annual average daily traffic (AADT), annual average peak-hour traffic, annual average daily truck traffic, annual average percent of truck traffic, highway capacity in vehicles per day, and level of service (LOS) for highways in the vicinity of the project.⁷⁸ These traffic estimates are presented for various road segments between mileposts or junctions on each road. LOS levels refer to the average vehicle capacity and the flow of traffic. LOS A denotes free flow of traffic while LOS E and F mean that there is a congested flow. According to Caltrans policy, LOS D is acceptable for planning purposes, whereas LOS E and F are considered unacceptable. As shown in **Table 1**, most of the state routes potentially affected by the proposed OMGP are operating at or above LOS D. However, there is one relevant roadway with a LOS of F (the skewed intersection of Old Otay Mesa Road and Interim State Route 905). (Ex. 65, p. 116.)

⁷⁸ The criteria for LOS on highways are established by Caltrans. These criteria take into account numerous variables such as annual average daily traffic, capacity, grade, environment, and other relevant information. (Ex. 65, p. 116.)

TRAFFIC AND TRANSPORTATION TABLE 1
Current Traffic Characteristics of Highways in the Project Area

Highway	Location	Annual Average Daily Traffic	Peak Hour Traffic	Annual Average Daily Truck Traffic	Percent of Truck Traffic	Highway Capacity	LOS
Interstate 5	Coronado Avenue Interch.—SR-905	99,000	8,100	4,620	4.6	326,400	A
	SR-905 — I-805	68,000	5,600	10,880*	16.0	326,400	A
Interstate 805	Otay Valley Rd-SR-90	105,000	5,775	1,886	5.5	326,400	B
	SR-905— I-5	51,000	2,040	5,390	5.5	326,400	B
SR- 905	I-5 — SR-805	38,500	3,550	3,118	8.1	163,200	A
	I-805 — Otay Mesa Road (E. of I-805)	38,000	3,750	3,040	8.0	80,000	B
	Break in Route	--	--	--	--	--	--
	Otay Mesa Road — Harvest Road	23,300	2,250	3,728*	16.0	29,600	C
	Harvest Road — Siempre Viva	24,400	2,150	3,904*	16.0	29,600	C
	Siempre Viva Road — U.S./Mex. Border	24,500	2,582	3,920*	16.0	29,600	C
SR-125	I-8 — SR-94	110,000	10,600	4,884	4.4	244,800	A
SR- 54	I-5 — I-805	98,000	8,800	6,644	6.8	244,800	A
	I-805 — Reo Drive	77,000	6,800	2,002	2.6	70,000	D

(Source: Ex. 65, p. 117.)

TRAFFIC AND TRANSPORTATION TABLE 1 (cont.)
Current Traffic Characteristics of Highways in the Project Area

Highway	Location	Annual Average Daily Traffic	Average Annual Peak Hour Traffic	Annual Average Daily Truck Traffic	Percent Of Annual Average Truck Traffic	Highway Capacity	LOS
Otay Mesa Road	SR-905 (e. of I-805)	60,000	2,300	7,616	6.8	60,000	C
	Heritage Road	60,000**	1,400	6,512	16.0	60,000	C
	La Media — Interim SR-905 (w. of Harvest Road)	40,000**	2,430	5,520	16.0	40,000	D
	SR-905 (w. of Harvest Road) — Sanyo Avenue	3,600	230	576	16.0	7,100	B
Otay Mesa Road	Sanyo Avenue — Alta Rd	4,100	404	656	16.0	7,100	B
	Interim SR-905 — Old Otay Mesa Road	4,100	404	656	16.0	7,100	F
Otay Valley Road	Heritage Road — I-805	5,200	280	832	16.0	7,100	C
Heritage Road	Otay Valley Rd - Otay Mesa Rd	6,300	570	1,008	16.0	7,100	C
La Media Road	Lone Star Rd — Otay Mesa Road	3,400	290	544	16.0	7,100	A
	Otay Mesa Rd — Airway Road	4,600	396	736	16.0	7,100	B
	Airway Rd — Siempre Viva Rd	4,400	380	704	16.0	7,100	B
Alta Road	Richard J. Donovan Corr. Facility — Otay Mesa Road	4,045	483	647	16.0	7,100	B

(Source: Ex. 65, p. 118.)

There is no railroad or light rail service in the Otay Mesa area, though the East Otay Mesa Specific Plan discusses a long term plan to extend rail service from existing lines in Chula Vista into the East Otay Mesa area. Because there is no

timeline for the construction of light rail and/or bike trails, these transportation modes will not be utilized by the OMGP construction workforce. When light rail and/or bike trails are in place, the OMGP operation workers may be able to use these transportation modes depending on the routes available. There is an existing bus route along SR-805 that provides service from Chula Vista to the U.S./Mexico Border. (Ex. 65, pp. 119-120.) The Brown Field Airport is located approximately two miles west of the proposed OMGP site. (Ex. 65, p. 120.) There is no evidence of any adverse transportation-related impacts from the OMGP project at the airport. (Ex. 97, Transportation Supplement, p. 1.)

1. Construction Impacts

Commuter Traffic

Construction of the OMGP generating facility will occur over an estimated 20-month period and will require a total *average* daily construction workforce of 230 workers, assuming a single shift and a 40-hour, five day work week. During the *peak* construction period, an estimated 361 workers will be required daily for the power plant. (Ex. 1, pp. 5.11-13 to 5.11-15).

A worst case commute scenario assumes that during the peak construction period all construction-related workers will drive to work individually, generating 722 vehicle trips to and from the project site each work day. (Ex. 65, p. 121.) The preferred route for these commuting workers will be south along I-5 or I-805, east along SR-905 and Otay Mesa Road, and north along Alta Road. Parking for construction personnel will be provided in an area on or adjacent to the project site. Construction workforce traffic will generally occur between 6:00 a.m. and 7:00 a.m. in the morning, and again between 4:00 p.m. and 5:00 p.m. in the evening, unless flexible work schedules are implemented. (*Ibid.*)

Using the traffic pattern assumptions described above, construction-related vehicle traffic will be heaviest on SR-905, Otay Mesa Road, and Alta Road. The worst case impact on SR-905 during peak hours could result in traffic increases of approximately 9 percent along portions of the route. This traffic impact is significant because the LOS is currently F at the junction of SR-905 and Old Otay Mesa Road. Depending on the intersection, traffic would also increase from 6 to 57 percent on Otay Mesa Road near its junction with SR-905, and at its intersections with Heritage and Sanyo roads. Given a current LOS level of F on Otay Mesa Road at the junction with SR-905, any increased traffic would further aggravate existing traffic congestion.

Applicant submitted a Supplemental Traffic Study on November 28, 2000 that provides mitigation for the roads potentially impacted by construction of the OMGP. (Ex. 98.) The City of San Diego signed a Memorandum of Understanding (MOU) with Applicant, Caltrans, and San Diego County accepting the traffic mitigation plan. (Ex. 108.) The measures identified in the MOU and described in the Supplemental Traffic Study, as amended by the MOU are incorporated in Condition **TRANS-4**.

Alta Road will potentially experience an increase in traffic during peak hours, but given its current LOS rating of B, the impact will not be significant. (Ex. 65, pp. 121-122.)

Truck Traffic

Construction of the generating plant would require the use and installation of heavy equipment and associated systems and structures. An estimated 4,220 truck deliveries would be made to the plant site over the course of the 20-month construction period (on average approximately 211 truck deliveries per month). Assuming 22 average workdays per month and two trips for each truck delivery (one to and one from the site), the project will generate approximately 18 truck

trips per day, on average. (Ex. 65, pp. 123-124.) There is no evidence that this level of truck traffic will cause any significant traffic impacts.

Deliveries will also include small quantities of hazardous materials to be used during project construction. (*Ibid.*) It is anticipated that during the construction phase, no more than three truck trips per month would be required to remove these wastes for disposal. (Ex. 1, p. 5.11-19.) Condition **TRANS-3** requires that a truck route be identified for hazardous materials and that appropriate permits be obtained from federal and state agencies that regulate transportation of hazardous materials.

Transportation of equipment that would exceed the load size and limits of certain roadways will require special permits from Caltrans. (Ex. 65, p. 124.) Condition **TRANS-1** ensures compliance with Caltrans requirements.

Linear Facilities

Potential construction impacts associated with the transmission line route could result from the movement of heavy equipment, trucks, and worker vehicles along access routes during construction of the new 230 kV structures and during reconductoring of the Miguel-Tijuana 230 kV transmission line.⁷⁹ (Ex. 1, p. 3.1-1.) Construction of the transmission line tie-in, approximately one tenth of a mile long, and reconductoring activities will take place during the 20-month plant construction period. During installation of the conductors, the workforce would range from ten to twenty workers and would take three to four months.

⁷⁹ Applicant anticipates that reconductoring will require light vehicle access to each transmission structure and heavy equipment access to conductor pull sites at major angle and double dead-end structures. Access to these sites would be along the existing transmission line trail. The trail is entered via various locations along county roads. Some portions of the trail may require minor repair before use. The new transmission poles between the plant switchyard and the SDG&E transmission line would be along the plant access road. (Ex. 1, p. 3.6-2 et. seq.)

Several aspects of this transmission-related construction work could potentially cause impacts, including: 1) workforce related traffic; 2) access to proposed tower structure locations; 3) transmission line roadway crossings; and 4) construction equipment and materials deliveries. However, the evidence indicates that these impacts will be insignificant given the small number of vehicles involved and the existing LOS on the affected roads. (Ex. 65, pp. 125-126.)

Finally, Applicant envisions closing one lane of Alta Road to allow for the construction of the water supply line. (Ex. 65, p.123.) Condition **TRANS-2** ensures that this closure will be coordinated with County Public Works and the local Sheriff and Highway Patrol.

Roadwork

The OMGP project will require construction of an asphalt-paved access road from the northwest corner of the plant site to Alta Road. (Ex. 65, pp. 122-123.) Conditions **TRANS-2** and **TRANS-6** require the project owner to fulfill conditions that the County deems necessary when the access road is paved.

In addition, Applicant has proposed a new southern access road and an alternate route 4A that would parallel a proposed wastewater discharge pipeline. The southern access road would be a two-lane paved road approximately 0.2 miles in length that would follow the planned Loop Road between the southwest corner of the plant site and Alta Road. After crossing Alta Road, the road would become alternate road 4A which proceeds west and then north along the County's planned Lone Star Road approximately 0.85 miles, until terminating at the proposed intersection with Route 4 in Johnson Canyon. (Ex. 65, p. 123.) Design of these roads will require consultation with the County as described Conditions **TRANS-2** and **TRANS-6**.

2. Operational Impacts

Commuter Traffic

Operation of the generating plant will require a labor force of approximately 24 full-time employees. A worst case scenario assumes that each employee will drive a separate vehicle to work and make one round trip from home to work per day, generating approximately 48 vehicle trips to or from the site per day. There is a possibility of car pools and other measures that could be taken to reduce the daily traffic. Adequate parking will be made available for employees on a paved lot adjacent to the administration building. (Ex. 65, p. 124.)

A majority of the permanent workforce will reside in the greater San Diego area and their preferred route to work would be east along SR 905 to Otay Mesa Road, then east to Alta Road and north to the project site. Operations-related traffic impacts are considered insignificant, representing less than one percent of existing AADT on SR 905, one percent of existing AADT on Otay Mesa Road, and less than one percent of existing AADT on Alta Road. (Ex. 65, p. 124.)

Truck Traffic

Approximately eight or nine truck deliveries of aqueous ammonia, a hazardous substance, will occur each month, if the OTGP uses Selective Catalytic Reduction as an alternative to SCONOX for NO_x control.⁸⁰ In addition, hazardous waste materials will be picked up at the project site once every 90 days and hauled offsite by licensed hazardous waste transporters. (Ex. 65, pp. 124-125.)

⁸⁰ For an in-depth description of the amount and type of hazardous materials that will be used during operation of the facility, see the **Waste Management** and **Hazardous Materials** Sections of this Decision.

Potential impacts from the transportation of hazardous materials will be mitigated to a level of insignificance by compliance with federal and state requirements established to regulate the transportation of hazardous substances. Condition **TRANS-3** ensures compliance with state, federal and local permit and safety requirements.

Operations-related transportation impacts associated with the skewed intersection of Old Otay Mesa Road and SR-905 will be mitigated through Condition **TRANS-4**. Due to the limited amount of truck traffic associated with the operational phase of this project, other local truck traffic impacts in the area are considered insignificant. (*Ibid.*)

3. Cumulative Impacts

The regional transportation system serving the Otay Mesa area will continue to experience increasing traffic and congestion. Several freeway, highway, and road expansion projects are in the planning stages including modifications to SR-905, SR-125, and SR-11, as well as upgrades to Alta Road, Heritage Road/Paseo Ranchero Road, Otay Valley Road and La Media Road. Other proposed public projects in the area include the East Otay Mesa Juvenile Detention Center at the George F. Bailey Correctional Facility (expected completion in 2003); a new state prison to be constructed on land adjacent to the R.J. Donovan Correctional Facility; the Brown Field Airport expansion; and an International Wastewater Treatment plant (under construction). (Ex. 65, pp. 126-128.)

In addition, the County of San Diego is currently processing three applications for development in the East Otay Mesa Specific Plan Area: 1) the Sunroad Centrum industrial project, located north of Otay Mesa Road and east and west of Harvest Road, will have significant traffic impacts on local road segments; 2) the East Otay Mesa Travel Plaza proposal to serve truckdrivers involved in trans-border commerce, will be located on the east side of Enrico Fermi Drive north of Airway

Road and south of Otay Mesa Road; and 3) a truck/vehicle container parking and storage facility. (Ex. 65, p.128.)

It is foreseeable that these projects could have a cumulative impact on traffic and transportation in the Otay Mesa area. Construction of OMGP will overlap with some of these proposed projects, and the increased car and truck traffic due to OMGP, particularly during the construction phase, will contribute to overall congestion in the Otay Mesa area. Relief from current and expected traffic loads depends on the completion of freeway and highway upgrades. Conditions **TRANS-4**, **TRANS-5**, and **TRANS-6** require the project owner to work with the County, the City of San Diego, and Caltrans to implement appropriate mitigation and contribute a fair share of funds needed for improvements to maintain satisfactory levels of service in the East Otay Mesa area.

4. Closure Impacts

Planned Closure

The project owner will prepare a Facility Closure Plan at least twelve months prior to the proposed closure. At that time, the plan will address how transportation and traffic activity associated with the closure will comply with applicable LORS. (Ex. 65, p. 129.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Construction and operation of the project will cause increased traffic on roadways in the local and regional areas.

2. Construction-related activities of the project, if unmitigated, will create adverse traffic impacts upon local and regional roadways.
3. The City of San Diego has agreed with Caltrans and San Diego County that the mitigation plan proposed by Applicant will provide adequate mitigation during the construction phase of the project.
4. Incorporation of the Construction Traffic Control Plan in the Conditions of Certification will ensure that roadways in the local and regional area will not be significantly impacted by the increased traffic from construction and operation of the project. (Ex. 98.)
5. Any potential adverse impacts associated with the transportation of hazardous materials during construction and operation of the project will be mitigated to insignificance by compliance with applicable laws.
6. Construction of the transmission outlet lines and reconductoring will have insignificant impacts on the function of area roadways. Routine construction safety measures and required encroachment permits will ensure that roadway impacts are not significant.
7. Construction of water and gas lines will require trenching within public road rights-of-way, which will impact both roadway function and levels of service but these impacts are expected to be short-term and not significant. In addition, all development will take place in compliance with Caltrans and San Diego County limitations for encroachment into public rights-of-way.
8. Potential cumulative impacts to traffic and transportation resulting from construction and operation of the project will be mitigated to insignificance by the Conditions of Certification.
9. Implementation of the Conditions of Certification, below, will ensure that both construction and operation of the project comply with all applicable laws, ordinances, regulations, and standards on traffic and transportation as identified in the pertinent portions of APPENDIX A.

The Commission therefore concludes that construction and operation of the project, as mitigated herein, will not result in any significant, direct, indirect, or cumulative adverse impacts to the local or regional traffic and transportation system.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall comply with Caltrans and San Diego County limits on vehicle sizes and weights. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any oversize and overweight transportation permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

TRANS-2 The project owner or its contractor shall comply with Caltrans and San Diego County limits for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: In Monthly Compliance Reports, the project owner shall submit copies of any encroachment permits received during the reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

TRANS-3 The project owner shall ensure that permits and/or licenses are secured from the U.S. Department of Transportation, California Highway Patrol, and Caltrans for the transport of hazardous materials.

Verification: The project owner shall include in its Monthly and Annual Compliance Reports, copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous materials.

TRANS-4 The project owner shall implement a construction traffic control plan as outlined in the East Otay Mesa Specific Plan that will reduce the amount of car trips to the plant site during the construction phase of the project. The project owner shall also implement the traffic mitigation plan described in the November 28, 2000, Supplemental Traffic Study (Exhibit 98), as amended, and incorporated in the Memorandum of Understanding between San Diego County, the City of San Diego, Caltrans, and OMGP (Exhibit 108).

Protocol: Prior to the start of earth moving activities, the project owner shall consult with San Diego County, and prepare and submit to the Compliance Project Manager (CPM) for review and approval, and to San Diego County for review and comment, a construction traffic control plan and implementation program which addresses the following issues:

- primary roads to be used during construction;
- timing of heavy equipment and building materials deliveries;
- signing, lighting, and traffic control device placement;
- establishing construction work hours outside of peak traffic periods;
- emergency access;
- temporary travel lane closures;
- maintaining access to adjacent residential and commercial property; and
- off-street employee parking in construction areas during peak construction.

This plan shall contain the following elements:

- Stagger shifts for administrative and management personnel to reduce the number of vehicles on local roads during shift changes.
- Stagger shifts for construction workers to minimize congestion during peak hours of 7-8 a.m. and 4-5 p.m.
- Schedule deliveries, including heavy truck traffic, during the non-peak traffic hours before or after shift changes.
- Monitor the effectiveness of the above traffic reduction measures.
- Determine the fair share of funds needed for road improvements to mitigate the impacts from construction of OGMP

Verification: At least 60 days prior to the start of earth moving activities, the project owner shall provide a copy of its construction traffic control plan and implementation program to the CPM and to San Diego County for review and approval. The approved plan must be submitted to the CPM within 30 days of its approval. At least 30 days prior to installation of traffic signals and intersection improvements pursuant to the Supplemental Traffic Study, the project owner shall obtain appropriate encroachment permits and provide copies to the CPM.

TRANS-5 Following construction of the power plant and all related facilities, the project owner shall meet with the CPM and San Diego County to determine the actions necessary and to prepare a schedule to complete the repair of Otay Mesa Road from the junction with SR-905 proceeding east to Alta Road and on Alta Road north to the project site, which will be used for construction traffic, to original or as near original condition as possible. A similar repair schedule will be prepared if the La Media-Airway-Sanyo Roads alternative route is used during construction.

Protocol: At least 60 days prior to the start of earth moving activities, the project owner shall photograph the primary routes to be used by construction traffic. To document the condition of the roads, the project owner shall provide the CPM and San Diego County with a copy of these photographs.

Verification: Within 30 days of the completion of project construction, the project owner shall meet with the CPM and San Diego County to determine the condition of the roads. Within 60 days of this meeting, the project owner shall provide a copy of a letter from San Diego County acknowledging satisfactory completion of the roadway repairs in the first Annual Compliance Report following start of operation of the OMGP project. To document the condition of the roads, the project owner shall provide the CPM and San Diego County with a copy of these photographs.

TRANS-6 An access road at the northwest and Loop Road on the southwest corners of the project will be paved in accordance with road standards described in the East Otay Mesa Specific Plan, and used during construction and operation of the OMGP. Alternate Route 4A would proceed west along the planned Loop Road and then along the proposed Lone Star Road. The project owner shall meet with the San Diego County Public Works and Fire Departments to determine the applicable road standards. This consultation shall address the recommendations noted in the San Diego County Board of Supervisors Resolution of April 12, 2000.

Verification: At least 60 days prior to the start of earth moving activities, the project owner shall provide to the CPM a copy of the construction plan for the access and arterial roads and Alternate Route 4A or another alternative route.

C. VISUAL RESOURCES

Visual resources are the natural and cultural features of the landscape that contribute to the visual character or quality of the environment. The California Environmental Quality Act (CEQA) requires an examination of a project's visual impacts on the environment which, in this case, would focus on the project's potential to cause substantial degradation to the existing visual character of the site and its surroundings. (Cal. Code of Regs., tit. 14, § 15382, Appendix G.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The most noticeable project features include the heat recovery steam generators (HRSGs) and stacks, the air cooled condensers, the switchyard, and the new 0.1-mile 230 kV outlet line. (Ex. 1, § 5.13.1.2.) Visible plumes may be emitted from the HRSG stacks under certain meteorological conditions and during gas turbine startups. (*Ibid.*) Except for temporary construction activities related to reconductoring, views of the existing Miguel-Tijuana transmission line will remain the same. (*Id.* at §. 5.13.4.2.2 et seq.) There may be temporary visual impacts during construction of the natural gas, wastewater, and potable water pipelines, but no permanent visual impacts will result from these underground facilities. (*Ibid.*; Ex. 64, pp. 122-127.)

The project site is located near the western base of the San Ysidro Mountains about 15 miles southeast of the City of San Diego, two miles southeast of the City of Chula Vista, and about 1.5 miles north of the Mexican border. (Ex. 64, p 121.) There is extensive urban development in the City of Tijuana along the international border but views of the site from the border are attenuated by distance. (Ex. 1, Figure 5.13-1.) On the California side, the setting is typically rural, with businesses at the former Kuebler Ranch about 0.5 mile northwest of the site and three correctional facilities about one mile to the northwest. There is

a single residence about 0.66 mile southwest of the site near Otay Mesa Road⁸¹ and another 3 residences about 1.3 miles west of the project site. (Ex. 1, p. 5.13-12.) Screening afforded by nearby shrubs and a small hill block views of the site from this area. Intervening hills block views of the site from the Eastlake residential subdivision, which is located about 4.4 miles to the north. (*Ibid.*)

1. Methodology

San Diego County's East Otay Mesa Specific Plan establishes applicable visual resource management policy in the project vicinity and the Land Use Element of the City of Chula Vista General Plan describes the city's scenic highway plan. (Ex. 1, § 5.13.1.1.) Applicant conducted visual field studies that viewed the project components from potentially sensitive vantage points to analyze project impacts in light of the local development policies. Seven Key Observation Points (KOPs) were chosen to represent particularly sensitive viewpoints. (*Id.* at § 5.13.4.2 et seq.)

- KOP 1 represents the north view from the international border looking toward the project, about 1.5 miles south of the site.
- KOP 2 represents the view from the residence closest to the site about 0.66 mile to the west. (No longer in existence.)
- KOP 3 represents the views of the traveling public at the intersection of Otay Mesa and Alta Roads, about 0.5 mile from the site.
- KOP 4 represents the rural residential views from the backyard of the two western residences of the group of three along Otay Mesa Road, about 1.3 miles from southwest of the site.
- KOP 5 represents the southerly view toward the plant site and transmission line route from the proposed Johnson Canyon trail corridor, about 250 feet of the northwest corner of the plant site.
- KOPs 6 & 7 represent views of the existing 230 kV Miguel-Tijuana transmission line where it crosses Otay Lakes Road and Eastlake Drive, respectively.

⁸¹ This residence was demolished as of November 2000. (Ex. 74, p. 12.)

Applicant took panoramic photographs of these viewpoints to document their existing visual features and then prepared photosimulations of the viewpoints to show project features superimposed on the original photographs. (Ex. 1, § 5.13.4.2, Figures 5.13-9 through 5.13-14.) Applicant relied on these simulations to determine whether project impacts would be noticeable to sensitive public views. (*Ibid.*)

2. Potential Impacts

Applicant's analysis indicated that the power plant components would not result in significant visual impacts at any of the KOPs. (Ex. 1, § 5.13.4.2.) See Table 5.13-4, below, replicated from Applicant's testimony. Staff concurred with Applicant's analysis. (Ex. 64, pp. 127-133.)

TABLE 5.13-4
SUMMARY OF VISUAL IMPACT ASSESSMENT FINDINGS

Viewing Position¹	Applicable Project Component(s)	Visual Sensitivity Rating for VP	Existing Visual Condition²	Future Visual Condition with Project	Project Visual Impact Significance³
VP1	Plant Site	Low	VMC 1	VMC 3	Insignificant
VP2	Plant Site	Low	VMC 2	VMC 4	Insignificant
VP3	Plant Site	Low	VMC 2	VMC 4	Insignificant
VP4	Plant Site	Moderate	VMC 2-3	Not Visible	Insignificant
VP5	Plant Site	High	VMC 2-4	VMC 4	Insignificant
VP6	Transmission Route	High	VMC 2-4	VMC 2-4	Insignificant
VP7	Transmission Route	High	VMC 2-4	VMC 2-4	Insignificant

¹ Refer to Map 5.13-1 for viewing position locations with respect to project components.

² Refer to Table 5.13-2 for definitions of Visual Modification Classes.

³ Refer to text for discussion of impact assessment and findings.

Although the use of dry cooling eliminates potential for cooling tower plumes, Staff noted that a brief slight brown tint to HRSG stack emissions could occur during infrequent cold startups (2-3 times per year). Staff expects, however, that these occurrences would be inconspicuous and not cause a significant visual impact. (Ex. 64, p. 133.)

There is no evidence that the project will contribute to cumulative visual impacts in the area. (Ex. 35, p. 238.)

3. Mitigation

Staff indicated that exterior lighting for the project has the potential to change the nighttime visual character of the vicinity from rural to industrial by creating glare and backscatter to the nighttime sky. (Ex. 64, p. 133.) The San Diego County Dark Sky Ordinance specifies outdoor lighting standards that would apply to the OMGP. (Ex. 1, §§ 5.13.3.1.2; 5.13.5.2.) Applicant proposed measures that would include hooded night lighting to direct illumination downward and inward, timed or motion detection switches, and a complaint resolution process. (*Id.*, at § 5.13.6.1; Ex. 4, p. 5.13-3.) Staff accepted these proposals and recommended additional measures to ensure compliance with the Dark Sky Ordinance. Condition **VIS-3** requires the project owner to submit a lighting plan to the County and to implement appropriate mitigation measures.

To further reduce potential visual impacts, project facilities will be painted with neutral earth tone tan or gray colors to blend with existing facilities and the background of existing vegetation; fencing will be constructed with non-reflective materials; and a specific landscaping plan for the facility will be coordinated with the San Diego County Planning Department. (Ex. 64, pp. 135-136.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Otay Mesa Generating Project (OMGP) is located in an undeveloped rural area that is zoned commercial/industrial.
2. Project components that could result in visual impacts include the heat recovery steam generators (HRSGs) and exhaust stacks, the air cooled condensers, the new switchyard, the new 0.1-mile 230 kV outlet line and the reconductored Miguel-Tijuana transmission line.
3. The project components will not result in significant visual impacts at any of the key observation points (KOPs).
4. Shrubbery and hills block views of the project from the nearest residences (1.3 miles west of the site) and from the Eastlake residential community (4.5 miles to the northwest).
5. Reconductoring the Miguel-Tijuana transmission line will not result in any significant visual impacts to the already degraded viewscape along the transmission line right-of-way.
6. There may be temporary visual impacts during construction of the natural gas, wastewater, and potable water pipelines, but no permanent visual impacts will result from these underground facilities.
7. Emission plumes from the HRSG stacks may be noticeable on occasion but such occurrences will be transitory and inconspicuous.
8. There is no evidence of potential cumulative visual impacts with the addition of OMGP in the viewshed.
9. Implementation of the Conditions of Certification, below, will insure that OMGP complies with all applicable laws, ordinances, regulations, and standards relating to visual resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission concludes that the implementation of the mitigation measures contained in the Conditions of Certification and otherwise described in the record

of evidence will ensure that neither the power plant nor its overhead transmission line will cause significant adverse impacts to visual resources.

CONDITIONS OF CERTIFICATION

VIS-1 The project owner shall treat the power plant structures (including the heat recovery steam generators, buildings, tanks, and switchyard) visible to the public in a non-reflective finish and a color that blends with the natural surroundings. The project owner shall treat the HRSG stacks with a heat-resistant non-reflective color that blends with the natural surroundings.

Protocol: The project owner shall submit a treatment plan for the project to San Diego County for review and comment and to the California Energy Commission Compliance Project Manager (CPM) for final review and approval. The treatment plan shall include:

- specification, and 11" x 17" color simulations or a mutually agreed upon color evaluation method, of the treatment proposed for use on project structures, including structures treated during manufacture;
- a detailed schedule for completion of the treatment; and,
- a procedure to ensure proper treatment maintenance for the life of the project.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall submit to the CPM a revised plan.

After approval of the plan by the CPM, the project owner shall implement the plan according to the schedule and shall ensure that the treatment is properly maintained for the life of the project.

The project owner should not specify the treatment of structures to the vendors until the project owner receives notification of approval of the treatment plan by the CPM.

The project owner shall not perform the final treatment on any structures until the project owner receives notification of approval of the treatment plan from the CPM.

The project owner shall notify the CPM within one week after all precolored structures have been erected and all structures to be treated in the field have been treated and the structures are ready for inspection.

Verification: Not later than 60 days prior to ordering the first structures that are to be color treated during manufacture, the project owner shall submit its proposed plan to San Diego County for evaluation of compliance with the East Otay Mesa Specific Plan and the CPM for review and approval. If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 days of receiving that notification, the project owner shall submit to the CPM a revised plan.

Not less than 6 months after the start of commercial operation of all turbines, the project owner shall notify the CPM that all structures treated during manufacture and all structures treated in the field are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

VIS-2 Any fencing for the project shall be non-reflective and provide sufficient screening. Prior to ordering the fencing the project owner shall submit to the CPM for review and approval the specifications for the fencing documenting that such fencing will be non-reflective and provide sufficient screening.

Protocol: The project owner shall not order the fencing until the project owner receives approval of the fencing submittal from the CPM.

Verification: At least 30 days prior to ordering the non-reflective and screened fencing, the project owner shall submit the specifications to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 days after completing installation of the fencing that the fencing is ready for inspection.

VIS-3 Prior to the start of commercial operation, the project owner shall design and install lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized. To meet these requirements:

Protocol: The project owner shall develop and submit a lighting plan for the project to San Diego County for review and to the CPM for review and approval. The lighting plan shall require that:

- Lighting is designed so that exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated so that backscatter to the nighttime sky is minimized. The design of this outdoor

lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary;

- High illumination areas not occupied on a continuous basis such as maintenance platforms or the main entrance are provided with switches or motion detectors to light the area only when occupied; and
- A lighting complaint resolution form (following the general format of that in attachment 1) will be used by plant operations to record all lighting complaints received and document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.
- If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall prepare and submit to the CPM a revised plan.
- Lighting shall not be installed before the plan is approved. The project owner shall notify the CPM when the lighting has been installed and is ready for inspection.

Verification: At least 90 days before ordering the exterior lighting, the project owner shall provide the lighting plan to San Diego County to ensure compliance with the Dark Sky Ordinance and to the CPM for review and approval. If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within thirty days of receiving that notification the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within 7 days of completing exterior lighting installation that the lighting is ready for inspection.

VIS-4 Prior to the start of commercial operation, the project owner shall implement a landscape plan that meets the requirements of the San Diego County Zoning Code.

Protocol: The project owner shall submit to San Diego County for review and comment and to the CPM for review and approval a specific plan describing its landscaping proposal, stating that it conforms to San Diego County's Zoning Code. The plan shall include, but not be limited to:

- a detailed landscape plan, at a reasonable scale, which includes a list of proposed tree and shrub species and sizes and a discussion of the suitability of the plants for the site conditions and mitigation objectives.
- maintenance procedures, including any needed irrigation; and
- a procedure for replacing unsuccessful plantings.

- Landscaping shall not be installed before the plan is approved. The project owner shall notify the CPM when the landscaping has been installed and is ready for inspection.

Verification: At least 90 days prior to the start of commercial operation, the project owner shall submit the proposed landscape plan to San Diego County for review and comment and to the CPM for review and approval.

The project owner shall notify the CPM within 7 days after completing installation of the landscaping that it is ready for inspection.

VIS-5 The project owner shall submit a detailed site plan that meets the requirements of San Diego County's East Otay Mesa Specific Plan and East Otay Mesa Planning and Design Guidelines.

Protocol: The project owner shall submit to San Diego County for review and to the CPM for review and approval a specific site plan which conforms to San Diego County's East Otay Mesa Specific Plan. The plan shall include, but not be limited to:

- A detailed plan, at a reasonable scale, which describes the location of all walls and fencing, and a detailed elevation of each fencing type.
- Details and elevations of other structures including entry way and modular offices;
- Existing and proposed grades;
- Distance that structures are proposed to be setback from property lines; and
- Width of proposed roads and driveways.
- The detailed site plan shall incorporate Conditions VIS-1 through VIS-4 into its design criteria.

Verification: At least 90 days prior to the start of commercial operation, the project owner shall submit the proposed site plan to San Diego County for review and comment and to the CPM for review and approval.

ATTACHMENT 1

LIGHTING COMPLAINT RESOLUTION FORM

OTAY MESA GENERATING PROJECT San Diego County	
Complainant's name and address:	
Phone number:	
Date complaint received:	
Time complaint received:	
Nature of lighting complaint:	
Definition of problem after investigation by plant personnel:	
Date complainant first contacted:	
Description of corrective measures taken:	
Complainant's signature: _____	Date: _____
Approximate installed cost of corrective measures: \$	
Date installation completed:	
Date first letter sent to complainant: _____ (copy attached)	
Date final letter sent to complainant: _____ (copy attached)	
This information is certified to be correct:	
Plant Manager's Signature:	

(Attach additional pages and supporting documentation, as required.)

D. NOISE

The construction and operation of any power plant project will create noise. The character and loudness of this noise, the times of day or night during which it is produced, and the proximity of the project to sensitive receptors combine to determine whether project noise will cause significant adverse impacts to the environment. In the licensing process, the Commission evaluates whether noise produced by project-related activities will be sufficiently mitigated to comply with applicable noise control laws and ordinances.

SUMMARY OF THE EVIDENCE

Laws that regulate noise disturbances in the project vicinity are included in the San Diego County General Plan Noise Element and the County Code on Noise Abatement Control.⁸² The San Diego County Noise Element applies a noise level goal of 55 dBA CNEL at residential locations.⁸³ The County Noise Abatement Code establishes specific noise limits within different zoning areas. (Ex. 1,/5.12.1.3.5.)

1. The Setting

The project is zoned mixed industrial. (Ex. 1, 5.12.1.3.5.) The applicable noise limit for mixed industrial is 70 dBA at all times. The noise limit for residential areas is 45 dBA during nighttime periods. (*Id.* at p. 5.12-6.) A new source may not exceed 5 dBA above the noise level limit in any zone. (*Id.* at p. 5.12-7.) Applicant's Table 5.12-3, replicated below, summarizes the criteria for the County Code sound level limits.

⁸² San Diego County Code, section 36.401-36.443.

⁸³ Staff's Noise Tables A1 and A2, replicated at the end of this section, explain the definitions of these and other noise measurement terms.

**Table 5.12-3
San Diego County Code Sound Level Limits**

Zone	Time	Applicable Limit One-Hour Average Sound Level (dBA)
R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-88, S-90, S-92, R-V, and R-U. Use regulations with a density of less than 11 dwelling units per acre.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	50 45
R-RO, R-C, R-M, C-30, S-86, R-V and R-U. Use regulations with a density of 11 or more dwelling units per acre.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50
S-94 and all other commercial zones.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55
M-50, M-52, M-54	Anytime	70
S-82, M-58, and all other industrial zones.	Anytime	75

Source: Section 36.404 of the San Diego County Code

There are only two structures within a one-mile radius of the site: a metal fabricating shop and trucking business office at the former Kuebler Ranch about 2,600 feet north and offices of a truck storage facility about 3,700 feet southwest.⁸⁴ (Ex. 1, / 5.12.1.) Within a two mile radius, there are three residences on Otay Mesa Road about 6,200 feet to the southwest; the Donovan Correctional Facility about 5,900 feet northwest; and the Bailey County Correctional Facility about 5,500 feet north of the site. (*Ibid.*)

2. Methodology

Existing noise in the site vicinity is due almost entirely to traffic on Otay Mesa and Alta Roads. (Ex. 1, p. 5.12-4.) An additional source of noise is from light aircraft overflights and sporadic jet takeoffs at the Tijuana International Airport. (*Ibid.*) Applicant conducted an ambient noise survey to measure current conditions and to assess potential project impacts. Applicant s Table 5.12-2, replicated below, shows the six potentially sensitive locations chosen for the noise survey.

⁸⁴ As of November 2000, a single residence that was located on Otay Mesa Road, about 3,500 feet southwest of the site, had been demolished (i.e., now no sensitive receptors are within one mile). The impact assessments and findings presented herein are extremely conservative, therefore, since they assume the closest receptor is 3,500 feet. (Ex. 74, p. 12.)

Table 5.12-1
Ambient Noise Measurement Locations

Position Number	Location (Dimensions are approximate)
1	180 feet east of Alta Road, 300 feet south of prison access road intersection.
2	Utility pole 60 feet off Alta Road, 100 feet south of the entrance to R & F Metal, Inc.
3	50 feet east of Alta Road, 1,600 feet south of prison access road intersection.
4	150 feet north of Otay Mesa Road, 200 feet west of nearest residence. Same distance from road as house. No longer exists as of 11/00.
5	30 feet north of Otay Mesa Road, 200 feet east of residence. Same distance from road as house. No longer exists as of 11/00
6	50 feet north of Mexican border at southern terminus of Alta Road. Represents a group of apartments across the US/Mexican border.

Source: Ex. 1, p. 5.12-3.

Results from the monitoring locations indicated that the daytime L_{90} level is nearly uniform at 46 dBA over the entire area. (Ex. 1, /5.12.1.2.) The quietest area is around Position 2 (average $L_{90} \approx 38$ dBA). Minimum nighttime ambient noise levels in the area average about 34 dBA, when no traffic is present. Much higher nighttime L_{eq} noise levels (roughly 45 to 50 dBA) indicate that significant numbers of cars are present at 1 a.m. to 2 a.m. It was also observed that traffic was particularly heavy between 5 a.m. and 6 a.m. (*Ibid.*)

According to Staff, the most stringent noise limitation required by any of the applicable LORS is the controlling criterion for design of the project's noise control features. (Ex. 64, p. 96.) In this case, the most stringent criterion is the nighttime noise level of 45 dBA (CNEL) as specified in the San Diego Noise Abatement Code. (*Ibid.*) Since the existing ambient noise level is about 34 dBA at the nearest residence, project noise levels may not exceed 39 dBA, allowing for 5 dBA above ambient levels. (Ex. 4, p. 5.12-8b.) Applicant has designed the facility to limit noise emissions to 39 dBA at all sensitive receptors. (*Ibid.*)

3. Potential Impacts

a. Construction

Construction of the power plant and linear facilities will cause temporary noise impacts. Applicant provided data on the anticipated construction noise levels and equipment usage for each phase of construction. (Ex. 1,/5.12.2.1.2; Ex. 4, Table 5.12-3c.) The resulting noise levels at the nearest sensitive receptor will range from 46 to 49 dBA. These noise levels may be faintly audible at the nearest residences but should not cause undue disturbances. (Ex. 64, p. 98.) The project owner will schedule construction during the period of 7 a.m. to 10 p.m. but nighttime construction will be limited to low noise producing activities. (Ex. 1,/5.12.2.1.2.) Condition **NOISE-8** limits the hours for noisy construction activity from 7 a.m. to 7 p.m. on weekdays and from 8 a.m. to 6 p.m. on weekends and holidays.

The loudest construction noise is created by steam blows, which are necessary to flush piping and tubing of accumulated debris prior to start-up. A series of short steam blows, lasting a few minutes, will be performed several times daily over a period of two weeks. (Ex. 1,/5.12.2.1.2.) Steam blows can produce noise as loud as 130 dBA at a distance of 50 feet. (Ex. 64, p. 98.) The project owner will install appropriate silencers or use a new quieter steam blow process (QuietBlow[®] or Silentsteam[™]). Additional noise reduction will occur as the result of topographic attenuation. (*Ibid.*) The Commission added Condition **NOISE-4**, which restricts steam blows to daytime hours to minimize annoyance to residents. The Commission also added Condition **NOISE-5** to require notification of neighbors prior to initiating the steam blow process.

Project workers are susceptible to injury from excessive noise during construction-related activities. (Ex. 64, p. 99.) Condition **NOISE-3** requires the project owner to implement a noise control program for construction workers in

accordance with Cal/OSHA standards.⁸⁵ Condition **NOISE-7** requires the project owner to conduct an occupational noise survey and to identify necessary protective measures for onsite employees during project operation.

b. Operation

During normal baseload operation, OMGP will emit a steady, continuous noise source day and night. Noise mitigation measures incorporated into the project design will ensure that noise levels at the nearest sensitive receptor will not exceed 39 dBA, which is 5 dBA above the average ambient noise level of 40 dBA but well below the maximum allowable noise level of 45 dBA. (Ex. 4, / 5.12.2.1.1; Ex. 64, p. 101.)

To prevent strong tonal noises or hissing sounds that could result from the various project components, OMGP will be designed to blend the many noise sources so no single noise source will stand out. (Ex. 64, pp. 100-101.) Condition **NOISE-6** requires project design to blend noise levels and muffle equipment to prevent legitimate complaints from affected residential receptors.

The evidence establishes that there are no noise impacts associated with operation of the linear facilities: the gas and water pipelines will be buried below ground, and the transmission line and switchyard are not located near noise-sensitive land uses. (Ex. 64, p. 99.)

Staff reviewed the potential for cumulative impacts related to new or existing projects and determined that there are no foreseeable projects within a two-mile radius of the site or within one mile of the linear facilities. (Ex. 64, p. 102.)

⁸⁵ Regulations adopted by the federal Occupational Safety and Health Administration (OSHA) and the state Cal/OSHA protect workers from noise-related health and safety hazards. (29 C.F.R., /1910 et seq.; Cal. Code of Regs., tit. 8, /5095 et seq. .)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Construction and operation of OMGP and its linear facilities will increase noise levels above existing ambient levels in the surrounding community.
2. Construction noise levels are temporary and transitory in nature and will be mitigated to the extent feasible by sound reduction devices, limiting construction to daytime hours in accordance with local noise control laws and ordinances, and providing notice to nearby residences, as appropriate.
3. The nearest sensitive noise receptor is a group of three residences 1.3 miles west of the site.
4. The existing ambient noise level at the nearest sensitive receptor is 34 dBA.
5. Noise reduction measures are incorporated in the project design to ensure that operation noise levels are maintained at 39 dBA at the nearest sensitive receptor, consistent with applicable law limiting any noise increase to 5 dBA above background levels.
6. The project owner will implement measures to protect workers from injury due to excessive noise levels by complying with pertinent Cal/OSHA regulations.
7. The project owner will implement the mitigation measures identified in the Conditions of Certification to ensure that project-related noise levels do not cause significant adverse impacts to sensitive noise receptors.

The Commission concludes that with implementation of the following Conditions of Certification, OMGP will comply with the applicable laws, ordinances, regulations, and standards on noise control as set forth in the pertinent portions of APPENDIX A of this Decision.

CONDITIONS OF CERTIFICATION

NOISE-1 At least 15 days prior to the start of construction (defined as start of rough grading) of the OMGP, and again at least 15 days prior to the commencement of steam blow activity, the project owner shall notify all residents within a two-mile radius of the project site, by mail or other effective means of those activities. The project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the OMGP. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the telephone is unattended. This telephone number shall also be posted at the OMGP site during construction in a manner visible to passersby. This telephone number shall be maintained until the OMGP has been operational for at least one year.

Verification: The project owner shall transmit to the Compliance Project Manager (CPM) in the first monthly construction report following the start of rough grading, a statement signed by the project manager attesting that the above notification has been performed, describing the method of that notification, and including a sample letter, poster or other notice, as appropriate. This statement shall also attest that the telephone number has been established and posted at the power plant site.

NOISE-2 Throughout the construction and operation of the OMGP, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints.

Protocol: The project owner shall:

- use a Noise Complaint Resolution Form (see an example of a Noise Complaint Resolution Form following these conditions), or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- attempt to contact the person(s) making the noise complaint within 24 hours;
- conduct an investigation to determine the source of noise related to the complaint;
- take all feasible measures to reduce the noise at its source if the noise is project related, and
- submit a report documenting the complaint and the actions taken. The report shall include a complaint summary and the results of noise reduction efforts; and if obtainable, a signed statement by the

complainant, stating that the noise problem was resolved to complainant's satisfaction.

Verification: Within 30 days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with San Diego County and with the CPM documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 30-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE-3 Prior to the start of site grading of OMGP, the project owner shall submit to the CPM for review a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable Cal/OSHA standards.

Verification: At least 30 days prior to the start of rough grading the project owner shall submit to the CPM the above referenced program. The project owner shall make the program available to Cal/OSHA upon request.

NOISE-4 If a traditional, high-pressure steam blow process is employed, the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 90 dBA measured at a distance of 50 feet. The project owner shall conduct steam blows only during the hours of 8 a.m. to 5 p.m., unless the CPM agrees to longer hours based on a demonstration by the project owner that offsite noise impacts will not cause annoyance. If a low-pressure continuous steam blow process is employed, the project owner shall submit a description of this process, with expected noise levels and projected hours of execution, to the CPM.

Verification: At least 15 days prior to the first high-pressure steam blow, the project owner shall submit to the CPM drawings or other information describing the temporary steam blow silencer and the noise levels expected, and a description of the steam blow schedule. At least 15 days prior to any low-pressure continuous steam blow, the project owner shall submit to the CPM drawings or other information describing the process, including the noise levels expected and the projected time schedule for execution of the process.

NOISE-5 At least 15 days prior to the first steam blow(s), the project owner shall notify all residents or business owners within two miles of the site of the planned steam blow activity, and shall make the notification available to other area residents in an appropriate manner. The notification may be in the form of letters to the area residences, telephone calls, fliers or other effective means.

The notification shall include a description of the purpose and nature of the steam blow(s), the proposed schedule, the expected sound levels, and the explanation that it is a one-time operation and not a part of normal plant operations.

Verification: Within 5 days of notifying these entities, the project owner shall send a letter to the CPM confirming that they have been notified of the planned steam blow activities, including a description of the method(s) of that notification.

NOISE-6 Upon the OMGP first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey, utilizing the same monitoring sites employed in the pre-project ambient noise survey as a minimum. The survey shall also include the octave band pressure levels to ensure that no new pure-tone noise components have been introduced. No single piece of equipment shall be allowed to stand out as a dominant source of noise that draws complaints. Steam relief valves shall be adequately muffled to preclude noise that draws complaints. The noise contributed by the OMGP operation at the nearest residence shall not exceed 39 dBA under normal operating conditions including startups and shutdowns. If the results from the survey indicate that power plant noise levels are in excess of 39 dBA at the nearest residence, additional mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

Protocol: The measurement of power plant noise for purposes of demonstrating compliance with this Condition may alternatively be made at an acceptable location closer to the plant (e.g. 400 to 1,000 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the nearest sensitive receptor. However, notwithstanding the use of this alternative method for determining the noise level, the character of plant noise shall be evaluated at the nearest sensitive receptor to determine the presence of pure tones or other dominant sources of plant noise.

Verification: Within 30 days after completing the survey, the project owner shall submit a summary report of the survey to San Diego County and the CPM. Included in the report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within 30 days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

NOISE-7 The project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted within 30 days after the facility is operating at an output of 80% of rated capacity

or greater, and shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations sections 5095-5100 (Article 105) and Title 29, Code of Federal Regulations, Part 1910. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable state and federal regulations.

Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA upon request.

NOISE-8 Construction and construction related activity (that which causes off-site annoyance, as evidenced by the filing of a legitimate noise complaint) shall be restricted to the hours of: 7 a.m. to 7 p.m. on weekdays and from 8 a.m. to 6 p.m. on weekends and holidays.

Verification: The project owner shall transmit to the CPM in the first Monthly Construction Report a statement certifying that the above restrictions will be observed throughout the construction of the project.

NOISE COMPLAINT RESOLUTION FORM

OTAY MESA GENERATING PROJECT (99-AFC-5)		
NOISE COMPLAINT LOG NUMBER _____		
Complainant's name and address:		
Phone number: _____		
Date complaint received: _____		
Time complaint received: _____		
Nature of noise complaint:		
Definition of problem after investigation by plant personnel:		
Date complainant first contacted: _____		
Initial noise levels at 3 feet: _____ dBA	Date: _____	
Initial noise levels at complainant's property: _____ dBA	Date: _____	
Final noise levels at 3 feet: _____ dBA	Date: _____	
Final noise levels at complainant's property: _____ dBA	Date: _____	
Description of corrective measures taken:		
Complainant's signature: _____		Date: _____
Approximate installed cost of corrective measures: \$ _____		
Date installation completed: _____		
Date first letter sent to complainant: _____ (copy attached)		
Date final letter sent to complainant: _____ (copy attached)		
This information is certified to be correct:		
Plant Manager's signature: _____		

(Attach additional pages and supporting documentation, as required.)

NOISE Table A1

FUNDAMENTAL CONCEPTS OF COMMUNITY NOISE

Noise levels can be measured in a number of ways. One common measurement, the equivalent sound level (L_{eq}), is the long-term A-weighted sound level that is equal to the level of a steady-state condition having the same energy as the time-varying noise, for a given situation and time period. (See **Noise**: Table A1, below.) A day-night (L_{dn}) sound level measurement is similar to L_{eq} , but has a 10 dB weighting added to the night portion of the noise because noise during night time hours is considered more annoying than the same noise during the day.

Definition of Some Technical Terms Related to Noise	
Terms	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dB	The sound pressure level in decibels as measured on a Sound Level Meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this testimony are A-weighted.
L_{10} , L_{50} , & L_{90}	The A-weighted noise levels that are exceeded 10%, 50%, and 90% of the time, respectively, during the measurement period. L_{90} is generally taken as the background noise level.
Equivalent Noise Level L_{eq}	The average A-weighted noise level during the Noise Level measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels to levels in the evening from 7 p.m. to 10 p.m. and after addition of 10 decibels to sound levels in the night between 10 p.m. and 7 a.m.
Day-Night Level, L_{dn}	The Average A-Weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10 p.m. and 7 a.m.
Ambient Noise Level	The composite of noise from all sources, near and far. The normal or existing level of environmental noise at a given location.
Intrusive Noise	That noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: California Department of Health Services 1976; Reference: Exhibit 64, p. 110.

In order to help the reader understand the concept of noise in decibels (dBA), **Noise** Table A2 has been provided to illustrate common noises and their associated dBA levels.

NOISE Table A2

Typical Environmental and Industry Sound Levels			
Source and Given Distance from that Source	A-Weighted Sound Level in Decibels (dBA)	Environmental Noise	Subjectivity/ Impression
Civil Defense Siren (100)	140-130		Pain Threshold
Jet Takeoff (200)	120		
	110	Rock Music Concert	Very Loud
Pile Driver (50)	100		
Ambulance Siren (100)	90	Boiler Room	
Freight Cars (50)			
Pneumatic Drill (50)	80	Printing Press Kitchen with Garbage Disposal Running	Loud
Freeway (100)	70		Moderately Loud
Vacuum Cleaner (100)	60	Data Processing Center Department Store/Office	
Light Traffic (100)	50	Private Business Office	Quiet
Large Transformer (200)	40		
Soft Whisper (5)	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing
	0		

Source: Peterson and Gross 1974; Reference: Exhibit 64, p. 111.

Subjective Response to Noise

The adverse effects of noise on people can be classified into three general categories:

- ¥ Subjective effects of annoyance, nuisance, dissatisfaction.
- ¥ Interference with activities such as speech, sleep, and learning.
- ¥ Physiological effects such as anxiety or hearing loss.

E. SOCIOECONOMICS

The socioeconomic analysis evaluates the effects of project-related population changes on local schools, medical and fire protection services, public utilities and other public services, as well as the fiscal and physical capacities of local government to meet these needs. The construction phase of project development is typically the focus of the analysis because of the potential influx of workers into the area. Socioeconomic impacts are considered significant if a large influx of non-resident workers and dependents move to the project area, increasing demand for community resources that are not readily available. The issue of environmental justice is also evaluated under this topic.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Applicant identified a study area of communities in San Diego County most likely to be affected by the project's socioeconomic and fiscal impacts, including Chula Vista, Imperial Beach, National City, San Diego, Lemon Grove, La Mesa, El Cajon and Santee, all within a one hour one-way commute to the site. (Ex. 6, p. 4; Ex. 1,/5.10.1.1.)

1. Potential Impacts

Applicant has a project labor agreement with the San Diego County Building and Construction Trades Council to supply the workforce for construction and operation of the project.⁸⁶ Applicant asserted that since a vast majority of union members live within San Diego County, the project is not likely to result in the need for any non-local construction workers to relocate to the area. (Ex. 77: Testimony of William Chilson; Ex. 1,/5.10.2.1.)

⁸⁶ The evidence indicates there is a large pool of qualified union workers in San Diego County for each skill category to meet the skilled labor requirements of project construction and operation. (Ex. 64, p. 209; Ex. 1, Table 5.10-7.)

Applicant estimated that project construction would last approximately 21 months. Construction workers will work a rotating single-shift 10-hour, 4 day workweek. The number of construction and professional workers at the site will increase from 70 in the first month to a peak of 361 workers in the 14th month and decline to 45 workers during the final month. (Ex. 1,/5.10.2, Figure 3.8-1, Table 3.8-1.) Applicant expects about 25 permanent employees will be employed during project operation. (Ex. 3,/5.10.2 and 5.10.2.1.)

The demand for housing during construction will be minimal or non-existent.⁸⁷ Since Applicant did not indicate its intent to hire permanent staff from the local area, Staff assumed that all 25 permanent employees and their families would relocate to the San Diego area. (Ex. 64, p. 208.) Staff found that housing availability and the public infrastructure are sufficient to accommodate the potential influx of non-local permanent employees with their families. (*Id.* at p. 209.) The evidentiary further record indicated that potential population increases would be minimal and would not result in significant adverse impacts on housing, schools,⁸⁸ public utilities, or emergency services⁸⁹ in the local communities. (Ex. 1,/5.10.2.2 et seq.)

⁸⁷ Applicant included the possibility that the construction contract could be awarded to a non-local contractor who would bring about 4-5 non-local employees to the area. (Ex. 1,/5.10.12.2.) The influx of these 4-5 employees and families would have no impact on local resources. (*Ibid.*)

⁸⁸ Staff found that project operation could potentially result in impacts to local area schools. According to Staff, if all 25 permanent employees with families relocated, about 22 new students would be added to the over-subscribed school system. Staff was concerned that SB 50 (Stats. 1998), which restricts school funding to a minimal one-time statutory development fee (in this case \$2,030), would not provide adequate mitigation. (Ex. 64, p. 210.) Staff's concerns, however, were based on a worst-case analysis. It is more likely that a sufficient local workforce is available to operate the project and that only a few permanent employees would relocate to the area. Condition **SOCIO-1** requires the project owner to recruit employees within San Diego County before hiring from outside the area.

⁸⁹ Applicant is negotiating with the San Diego County Fire Department and the Rural Fire Protection District (RFPD) to identify mitigation measures and a financing strategy to ensure adequate emergency response to the site. Condition **WORKER SAFETY-4** requires Applicant to execute a final agreement with the RFPD prior to the start of construction-related activities. Medical services for the project will be coordinated with the Sharp Chula Vista Medical Center in Chula Vista, about 9 miles from the site. (Ex. 64, p. 211.) This facility has adequate resources to serve the project without adverse impacts to public service. (*Ibid.*)

The project will provide about \$2.7 million annually in property taxes to San Diego County, which would be apportioned to local communities and school districts. (Ex. 1, / 5.10.2.7.) The estimated construction payroll will be about \$25 million (1999 dollars) and the annual operations payroll will be about \$3 million (1999 dollars), which will be spent in the study area communities. (*Ibid.*) OMGP will spend an estimated \$160 million on materials and equipment during construction and about \$8 million during operations, generating about \$12 million in sales tax revenues, much of which should be returned to the county and study area communities. (*Ibid.*) Condition **SOCIO-1** requires the project owner to make a good faith effort to procure materials in San Diego County.

2. Environmental Justice Screening Analysis

Applicant conducted a screening analysis to determine whether environmental justice concerns are present in this case.⁹⁰ (Ex. 1, p. 5.10-12.) The screening analysis assessed 1) whether the potentially affected community includes minority and/or low-income populations; and 2) whether the project's potential environmental impacts are likely to fall disproportionately on minority and/or low-income members of the community. According to EPA guidelines, a minority population exists if the minority/low-income population of the affected area constitutes 50 percent or more of the general population. (*Ibid.*) Relevant census data within a six-mile radius of the site indicate that minority/low-income populations constitute more than 50 percent of the general population.⁹¹ (*Ibid.*)

⁹⁰ Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations requires the U.S. Environmental Protection Agency (EPA) and all other federal agencies and state agencies receiving federal aid to identify and address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. Although the Energy Commission is not obligated as a matter of law to conduct an environmental justice analysis, we have typically included this topic in our power plant siting decisions to ensure that any potential adverse impacts on identified populations have been addressed.

⁹¹ Staff used a six-mile radius in reviewing Applicant's analysis because it is the same radius used for Staff's cumulative air quality and public health analyses and captures the areas most likely to be impacted by the project. (Ex. 64, p. 213.) Based on census data and other more recent demographic estimates, Staff determined that about 58 percent of the population within the

Both Applicant and Staff concur, however, that the project as mitigated does not result in adverse impacts to the environment or public health and safety. Although PM₁₀ emissions will contribute to existing violations of the state 24 hour and annual PM₁₀ ambient air quality standard, the areas of maximum impacts occur on the unpopulated elevated terrain to the east of the project. (Ex. 64, p. 215.) Impacts that potentially occur to the south and west of the project are considerably less than the maximums and are uniformly distributed. Based on the demographics, the project's impacts do not expose a minority or low-income population to a disproportionate impact. (*Ibid.*; See, the Public Health section of this Decision.)

OMGP's compliance with the Conditions of Certification ensures that no unmitigated significant adverse impacts will result from project-related activities. Since the project will not result in adverse effects to any population, no further environmental justice analysis is required. (Ex. 1, 5.10.2.2.1; Ex. 64, p. 215.)

3. Cumulative Impacts

Staff considered the potential cumulative impacts of the project in light of foreseeable developments in the East Otay Mesa Specific Plan Area, which include the Sunroad Centrum mixed industrial development and the East Otay Mesa Travel Plaza. (Ex. 64, p. 217.) Construction of both developments will occur at the same time as construction of the OMGP, but it is unlikely that recruitment of non-local construction workers will occur due to the availability of local labor for all the projects. Thus, there is no evidence of potential adverse cumulative impacts to the local infrastructure or public services. (*Ibid.*)

six-mile radius are minorities/low income. The demographic data included both the Donovan Correctional Facility and the Bailey County Detention Center. There are no residential areas within 4 miles of the site. (*Id.* at p. 215.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we make the following findings and conclusions:

1. The Otay Mesa Generating Project has a project labor agreement with the San Diego County Building and Construction Trades Council to supply the workforce for construction and operation of the project.
2. The project will not cause an influx of a significant number of construction or operation workers into the local area.
3. The project will not result in significant adverse effects to local employment, housing, schools, public utilities, or emergency services.
4. Applicant will execute an agreement with the San Diego County Fire Department and the Rural Fire Protection District to identify and implement mitigation measures necessary to ensure adequate fire protection related to project activities.
5. The project will provide an estimated \$2.7 million in annual property tax revenues that will accrue to San Diego County.
6. The project will spend an estimated \$160 million during construction and \$8 million during operation for materials and equipment to be purchased locally to the extent feasible.
7. The environmental justice screening analysis indicates that more than 50 percent of the population within a six-mile radius of the project is minority/low-income.
8. There is no evidence of disproportionate impacts to minorities or low-income populations.
9. Construction and operation of the project will not result in any direct, indirect, or cumulative adverse socioeconomic impacts.

We therefore conclude that implementation of the Conditions of Certification, below, and the mitigation measures identified in the evidentiary record, ensures that the project will comply with all applicable laws, ordinances, regulations, and standards relating to socioeconomic factors as identified in the pertinent portions of APPENDIX A.

CONDITIONS OF CERTIFICATION

SOCIO-1 The project owner and its contractors and subcontractors shall recruit employees and procure materials and supplies within San Diego County first unless:

- to do so will violate federal and/or state statutes;
- the materials and/or supplies are not available; or
- qualified employees for specific jobs or positions are not available; or
- there is a reasonable basis to hire someone for a specific position from outside the local area.

Verification: At least 60 days prior to the start of construction, the project owner shall submit to the Energy Commission Compliance Project Manager (CPM) copies of contractor, subcontractor, and vendor solicitations and guidelines stating hiring and procurement requirements and procedures. In addition, the project owner shall notify the CPM in each Monthly Compliance Report of the reasons for any planned procurement of materials or hiring outside the local regional area that will occur during the next two months. The CPM shall review and comment on the submittal as necessary.

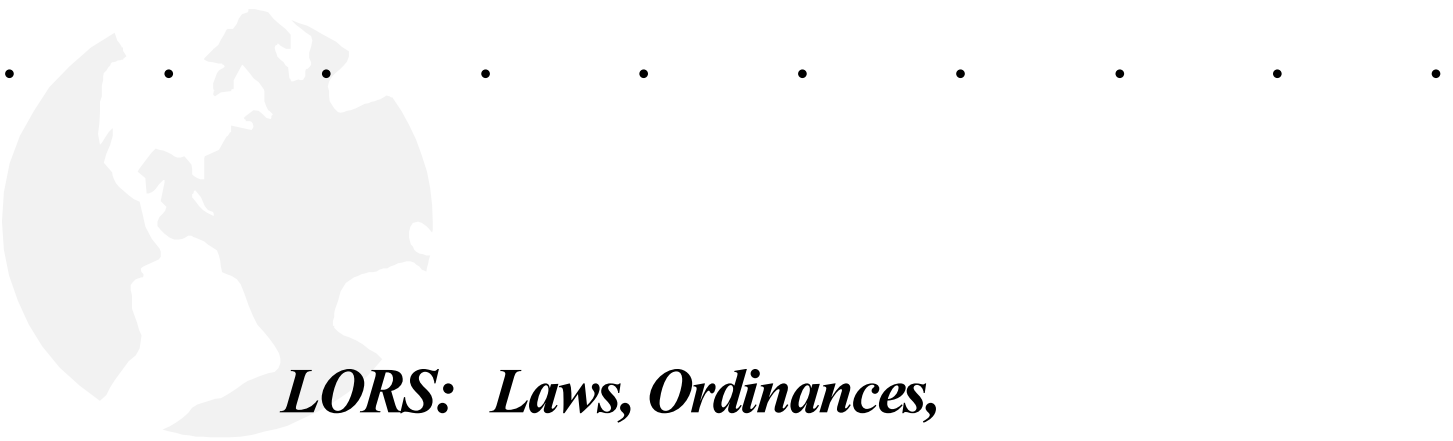
SOCIO-2 The project owner shall pay the statutory school facility development fee as required at the time of filing for the in-lieu building permit with the San Diego County Building Department.

Verification: The project owner shall provide proof of payment of the statutory development fee in the next Monthly Compliance Report following the payment.

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OTAY MESA GENERATING PROJECT

Appendix A



***LORS: Laws, Ordinances,
Regulations, and Standards***

AIR QUALITY

FEDERAL

Under the Federal Clean Air Act (40 CFR 52.21), there are two major components of air pollution law, New Source Review (NSR) and Prevention of Significant Deterioration (PSD). NSR is a regulatory process for evaluation of those pollutants that violate federal ambient air quality standards. Conversely, PSD is a regulatory process for evaluation of those pollutants that do not violate federal ambient air quality standards. The NSR and PSD analyses have been delegated by the United States Environmental Protection Agency (EPA) to the San Diego County Air Pollution Control District (District). The PSD requirements apply only to those projects (known as major sources) that exceed 100 tons per year for any pollutant.

STATE

The California State Health and Safety Code, section 41700, requires that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

LOCAL

The proposed project is subject to the San Diego County Air Pollution Control District (District) rules and regulations. The rules and regulations are discussed in the Preliminary Determination of Compliance (PDOC) issued June 22, 2000 (District 2000b). Rules that apply to the Project are summarized below. The rules and the project's compliance with them are described more fully in the PDOC.

RULE 20.1 AND 20.3 - NEW SOURCE REVIEW (MAJOR STATIONARY SOURCES AND PSD SOURCES):

RULE 20.3(D)(1) - BEST AVAILABLE CONTROL TECHNOLOGY/LOWEST ACHIEVABLE EMISSION RATE:

This subsection of the rule requires that Best Available Control Technology (BACT) be installed on a pollutant specific basis if emissions exceed 10 lbs/day for each criteria pollutant (except for CO for which the PSD BACT threshold is 100 tons/yr). This subsection also requires that Lowest Achievable Emission Rate (LAER) be installed on a pollutant specific basis if the emissions exceed 50 tons/yr for NO_x (oxides of nitrogen, which is the sum of NO₂ and nitrogen oxide [NO] emissions) or VOC emissions.

Because the District is in attainment status for the national ambient air quality standards for CO, SO_x (SO₂ and sulfur compounds), and PM₁₀, LAER does not apply to these particular pollutants (District Rule 20.3(d)(1)(v)). However, BACT does apply for NO_x, VOC, SO_x, and PM₁₀ since the District is in non-attainment for the state ambient air quality standards for ozone, for which NO_x and VOC emissions are precursors, and PM₁₀ (District Rule 20.3(d)(1)(i)). Additionally BACT applies for CO and PM₁₀ if they trigger PSD major source thresholds of 100 tons/yr (District Rule 20.3(d)(1)(vi)).

Based on emission estimates for the OMGP, LAER is triggered for NO_x and BACT is triggered for CO, VOC, SO_x, and PM₁₀.

Rule 20.3(d)(2) - Air Quality Impact Analysis (AQIA):

This portion of the rule requires that an AQIA be performed for air contaminants, which exceed the trigger levels of Table 20.3-1 of the District's Rules and Regulations. An AQIA is triggered for NO_x, CO, and PM₁₀ for this project.

RULE 20.3(d)(3) - PREVENTION OF SIGNIFICANT DETERIORATION (PSD):

This portion of the rule requires that a PSD evaluation be performed for all contaminants, which exceed PSD major source trigger levels. PSD is triggered for NO₂, CO, and PM₁₀ for the OMGP.

RULE 20.3(d)(4) - PUBLIC NOTICE AND COMMENT:

This portion of the rule requires the District to publish a notice of the proposed action in at least one newspaper of general circulation in San Diego County as well as send notices to the EPA and the California Air Resources Board (CARB). The District must allow at least 30 days for public comment and consider all comments submitted. The District must also make all information regarding the evaluation available for public inspection. The public notice and comment period was initiated on June 22, 2000 when the Preliminary Determination of Compliance (PDOC) was submitted to the CEC.

RULE 20.3(d)(5) - EMISSION OFFSETS:

This portion of the rule requires that emissions of any federal non-attainment criteria pollutant or its precursors, which exceed major source thresholds, be offset with actual emission reductions. Of the six criteria pollutants, ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, PM₁₀, and lead, the District is a federal non-attainment area only for ozone. Therefore, offsets are potentially only required for NO_x and VOC emissions, as ozone precursors. However, VOC emissions are expected to be below major source levels (50 tons/yr). Therefore, only offsets for NO_x emissions are required for the OMGP per the District rules.

RULE 20.5 - POWER PLANTS:

This rule requires that the District submit Preliminary and Final Determination of Compliance reports to the California Energy Commission (CEC), which shall be equivalent to an evaluation for a District Authority to Construct.

RULE 50 - VISIBLE EMISSIONS:

This rule prohibits air contaminant emissions into the atmosphere darker than Ringlemann Number 1 (20% opacity) for more than an aggregate of three minutes in any consecutive sixty minute time period.

RULE 51 - NUISANCE:

This rule prohibits the discharge of air contaminants that cause or have a tendency to cause injury, nuisance, annoyance to people and/or the public or damage to any business or property.

RULE 53 - SPECIFIC AIR CONTAMINANTS:

This rule limits emissions of sulfur compounds (calculated as SO₂) to less than or equal to 0.05%, by volume, on a dry basis. This rule also limits particulate matter emissions from gaseous fuel combustion to less than or equal to 0.1 grains per dry standard cubic foot of exhaust calculated at 12% CO₂.

RULE 68 - OXIDES OF NITROGEN FROM FUEL BURNING EQUIPMENT:

This rule limits NO_x emissions from any fuel burning equipment to less than 125 parts per million by volume (ppmv) calculated as NO₂ at 3% oxygen on a dry basis.

RULE 69.3 - STATIONARY GAS TURBINES - REASONABLY AVAILABLE CONTROL TECHNOLOGY:

This rule limits NO_x emissions from gas turbines greater than 0.3 MW to 42 ppm at 15% oxygen when fired on natural gas. The rule also specifies monitoring and record keeping requirements. Startups, shutdowns, and fuel changes are defined by the rule and excluded from compliance with these limits.

RULE 69.3.1 - STATIONARY GAS TURBINES - BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY:

This rule limits NO_x emissions from gas turbines greater than 10 MW to 15x(E/25) ppm when operating uncontrolled and 9x(E/25) ppm at 15% oxygen when operating with controls and averaged over a 1-hour period. E is the thermal efficiency of the unit. The rule also specifies monitoring and record keeping requirements. Startups, shutdowns, and fuel changes are defined by the rule and excluded from compliance with these limits.

RULE 1200 - TOXIC AIR CONTAMINANTS, NEW SOURCE REVIEW:

This rule requires that a Health Risk Assessment (HRA) be performed if the emissions of toxic air contaminants will increase. A detailed HRA is necessary if toxic emissions exceed District de minimus (minimum threshold) levels. Toxics Best Available Control Technology (TBACT) must be installed if the HRA shows a cancer risk greater than one in a million. At no time shall the cancer risk exceed ten in a million.

BIOLOGICAL RESOURCES

FEDERAL

ENDANGERED SPECIES ACT OF 1973

Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq., designate and provide for protection of threatened and endangered plant and animal species, and their critical habitat.

FISH AND GAME COORDINATION ACT

Title 16, United States Code, section 661 et seq. requires federal agencies to coordinate federal actions with the U. S. Fish and Wildlife Service (USFWS) to conserve fish and wildlife resources.

CLEAN WATER ACT OF 1977

Title 33, United States Code, section 1344, and Title 30 Code of Federal Regulations, section 330.5(a)(26), regulates the placement of fill in waters of the United States and adjacent wetlands.

MIGRATORY BIRD TREATY ACT

Title 16, United States Code, sections 703 - 712, prohibits the take of migratory birds.

STATE

CALIFORNIA ENDANGERED SPECIES ACT OF 1984

Fish and Game Code sections 2050 et seq. protects California s rare, threatened, and endangered species.

NEST OR EGGS — TAKE, POSSESS, OR DESTROY

Fish and Game Code section 3503 protects California s birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs or any bird.

BIRDS OF PREY OR EGGS — TAKE, POSSESS, OR DESTROY

Fish and Game Code section 3503.5 protects California s birds of prey and their eggs by making it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

MIGRATORY BIRDS — TAKE OR POSSESSION

Fish and Game Code section 3513 protects California s migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird.

FULLY PROTECTED SPECIES

Fish and Game Code sections 3511, 4700, 5050, and 5515 prohibits take of animals that are classified as Fully Protected in California.

NATURAL COMMUNITY CONSERVATION PLAN (NCCP) ACT OF 1991

This act includes provisions for protection and management of state-listed threatened or endangered plants and animals and their designated habitats.

STREAMBED ALTERATION AGREEMENT

Fish and Game Code section 1600 et seq. requires the California Department of Fish and Game (CDFG) to review project impacts to waterways, including impacts to vegetation and wildlife from sediment, diversions and other disturbances.

NATIVE PLANT PROTECTION ACT OF 1977

Fish and Game Code section 1900 et seq. designates state rare, threatened, and endangered plants.

CALIFORNIA CODE OF REGULATIONS

Title 14, sections 670.2 and 670.5 list animals of California designated as threatened or endangered.

LOCAL

BIOLOGICAL MITIGATION ORDINANCE

County of San Diego Ordinance No. 8845, also known as the Biological Mitigation Ordinance (BMO), implements the county's Multiple Species Conservation Program (see below).

COUNTY OF SAN DIEGO MULTIPLE SPECIES CONSERVATION PROGRAM

The County of San Diego Multiple Species Conservation Program (MSCP) is a comprehensive, long-term habitat conservation program that addresses the needs of multiple species and the preservation of natural vegetation of San Diego County. The MSCP establishes the conditions under which the county will receive long-term take authorization from the USFWS and CDFG.

SENSITIVE RESOURCE AREA REGULATIONS, G DESIGNATOR

To ensure that environmentally sensitive areas are appropriately protected, the East Otay Mesa Specific Plan assigns a G Designator to these areas. Areas with a G Designator are subject to the Sensitive Resources Area Regulations of the Zoning Ordinance. The East Otay Mesa Specific Plan requires that prior to approval of a tentative map, or if no subdivision is needed, prior to any development including clearing or grading, a Resource Conservation Plan must

be approved for parcels with a G Designator. The equivalent of a Resource Conservation Plan will be contained in the OMGP Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). Portions of the power plant site, the proposed 230 kV connection to the existing Miguel-Tijuana transmission line, and one of the gas supply pipeline routes (Route 2B) are within an area with a G Designator.

CULTURAL RESOURCES

Cultural resources are indirectly protected under provisions of the federal Antiquities Act of 1906 (Title 16, United States Code, Section 431-433) and subsequent related legislation, policies, and enacting responsibilities. The following laws, ordinances, regulations, standards, and policies apply to the protection of cultural and ethnographic resources in California. Projects licensed by the Energy Commission are reviewed for compliance with these laws.

FEDERAL

Federal Guidelines for Historic Preservation Projects: The US Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The Secretary's standards and guidelines are used by federal agencies, such as the Forest Service, the Bureau of Land Management, and the National Park Service. The State Historic Preservation Office refers to these standards in its requirements for mitigation of impacts to cultural resources on public lands in California.

National Historic Preservation Act, 16 U.S.C. / 470, commonly referred to as Section 106, requires federal agencies to take into account the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning. Regulations revised in 1997 (36 CFR Part 800 et. seq.) set forth procedures to be followed for determining eligibility cultural resources, determining the effect of the undertaking on the historic properties, and how the effect will be taken into account. The eligibility criteria and the process are used by federal agencies. Very similar criteria and procedures are used by the state in identifying cultural resources eligible for listing in the California Register of Historical Resources.

Executive Order 11593, Protection of the Cultural Environment, May 13, 1971, (36 Federal Register, 8921) orders the protection and enhancement of the cultural environment through providing leadership, establishing state offices of historic preservation, and developing criteria for assessing resource values.

The American Indian Religious Freedom Act, Title 42, United States Code, Section 1996 protects Native American religious practices, ethnic heritage sites, and land uses.

The Native American Graves Protection and Repatriation Act (1990), Title 25, United States Code, Section 3001, *et seq.* defines cultural items, sacred objects, and objects of cultural patrimony; establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for return of specified cultural items.

STATE

Public Resources Code, Section 5020.1 defines several terms, including the following:

(j) Historical resource includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

(k) Substantial adverse change means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.

Public Resources Code, Section 5024.1 establishes a California Register of Historical Resources (CRHR); sets forth criteria to determine significance; defines eligible properties; and lists nomination procedures. The criteria are essentially the same as those used to determine eligibility to the NRHP, but they also stipulate that some properties that may not retain sufficient integrity to meet NRHP standards may still be eligible for the California Register.

Public Resources Code, Section 5097.5 states that any unauthorized removal or destruction of archaeological or paleontological resources on sites located on public land is a misdemeanor. As used in this section, public lands means lands owned by, or under the jurisdiction of, the state; or any city, county, district, authority, or public corporation; or any agency thereof.

Public Resources Code, Section 5097.98 defines procedures for notification of discovery of Native American artifacts or remains and for the disposition of such materials. If the county coroner determines that the remains are Native American, the coroner is required to contact the Native American Heritage Commission, which is then required to determine the Most Likely Descendant to inspect the burial and to make recommendations for treatment or disposition of the remains and any associated burial items. This section also prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions.

The California Environmental Quality Act (CEQA) requires analysis of potential environmental impacts of proposed projects and requires application of feasible mitigation measures. CEQA also requires a program for monitoring or reporting on the revisions that the public agency has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects.

Public Resources Code Section 21083.2 states that the lead agency determines whether a project may have a significant effect on unique archaeological resources; if so, an EIR shall address these resources. If a potential for damage

to unique archaeological resources can be demonstrated, the lead agency may require reasonable steps to preserve the resource in place. Otherwise, mitigation measures shall be required as prescribed in this section. The section discusses excavation as mitigation; limits the applicant's cost of mitigation; sets time frames for excavation; defines unique and non-unique archaeological resources; and provides for mitigation of unexpected resources.

Public Resources Code Section 21084.1 indicates that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historical resource; the section further defines a historical resource and describes what constitutes a significant historical resource.

CEQA Guidelines, Title 14, California Code of Regulations, Section 15126.4(b) prescribes the manner of maintenance, repair, stabilization, restoration, conservation, or reconstruction as mitigation of a project's impact on a historical resource; discusses documentation as a mitigation measure; and discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

CEQA Guidelines, Title 14, California Code of Regulations, Section 15064.5 Determining the Significance of Impacts on Historical and Unique Archeological Resource defines the term historical resources, explains when a project may have a significant effect on historical resources, describes CEQA's applicability to archaeological sites, and specifies the relationship between historical resources and unique archaeological resources. This section states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. It also defines a substantial adverse change for historical resources.

CEQA Guidelines, Title 14, California Code of Regulations, Appendix G, Section V lists questions that are relevant to evaluating a project's impacts on archaeological and historical resources.

Penal Code, Section 622 1/2 states that anyone who willfully damages an object or thing of archaeological or historic interest is guilty of a misdemeanor.

California Health and Safety Code, Section 7050.5 states that if human remains are discovered during construction, the project owner is required to contact the county coroner.

LOCAL

Although the Energy Commission has pre-emptive authority over local laws, it typically ensures compliance with local laws, ordinances, regulations, standards, plans, and policies.

SAN DIEGO COUNTY

GENERAL PLAN

Part I, Open Space Element

Sections 65560 through 65570 of the California Government Code require all cities and counties to prepare, adopt, and submit a local open space plan to the Secretary of the Resources Agency. This plan addresses comprehensive and long-range preservation of open space land including areas of outstanding historic and cultural value (SDC 1995, p. 1-2).

Part X, Conservation Element

Chapter 8 of Part X, of the General Plan addresses the County's concern with protecting significant resources. The County has adopted a series of policies and action programs designed to conserve and protect cultural heritage. The County requires that conservation of cultural resources be given high priority in County park acquisition and development programs. The County also seeks to coordinate with other levels of government to preserve resources and heighten public awareness regarding heritage resources. This plan requires that artifacts recovered as a result of this plan be stored in an appropriate institution and made available for public exhibit and scientific review (SDC 1975, pp. X-83 to X-85).

Part XIII, Sweetwater Community Plan

A portion of the proposed Otay Mesa Generating Project lies within area addressed by the Sweetwater Community Plan. The Cultural Sites Goal of this portion of the General Plan seeks to preserve and enhance archaeological sites and provide adequate conservation of these cultural resources. Four known sites are present in this planning area and the potential for discovery of additional resources is high. This element states that land development and agriculture activities have obliterated resources and deprived the public of their heritage. It is now county policy to preserve cultural resources through as broad a spectrum of planning mechanisms as possible (SDC 1997, p. 35).

East Otay Mesa Specific Plan

The proposed Otay Mesa Generating Project lies within the area addressed by the East Otay Mesa Specific Plan (Plan). This Plan provides design guidelines and developmental standards to ensure the creation of a business park that has a strong identity and is a place of distinction and quality. In the area of cultural resources, the Plan provides an Administrative Procedures outline of the necessary steps for discretionary projects. Stage one of the procedures requires that surveys must be conducted in areas not yet surveyed and the surveys must comply with the County of San Diego Archaeological/Historical Report Procedures. Stage two requires testing of all previously untested or unevaluated sites. Stage three discusses treatment of not significant and significant sites.

For sites found to be significant, alternate methods of mitigation shall be pursued including the following: site avoidance through capping and landscape; dedication of open space easement; and data recovery through excavation and analysis. Combinations of these three mitigation measures should also be considered (SDC 1994, Appendix 2).

ADDITIONAL COUNTY LAWS. ORDINANCES, REGULATIONS AND STANDARDS (LORS)

Resource Protection Ordinance No. 7631 intends to increase the preservation and protection of certain environmentally sensitive lands including significant Prehistoric and Historic Sites in San Diego County. When a parcel contains environmentally sensitive lands, the ordinance is applicable to the portion of the parcel containing the sensitive lands. A Resource Protection Study shall be submitted with the associated discretionary permit application. Development, trenching, grading, clearing and grubbing, or any other activity or use damaging to significant prehistoric or historic site lands shall be prohibited.

The County Archaeological/Historical Report Procedures (Procedures) provides concise procedures to be followed and requirements to be fulfilled for applications for County approval subject to the CEQA. The County determines the need for an archeological survey. The Procedures require a Cultural Resources Survey Form be completed if a survey is conducted under the direction of the County. Specific requirements have to be completed for the survey as outlined in the Procedures. The County will review the Survey Report Form. They have authority to request modifications to the material or reject material outright. Preservation or other mitigation will not commence without concurrence of the County staff or before approval of the County.

EFFICIENCY

FEDERAL

No federal laws apply to the efficiency of this project.

STATE

CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES

CEQA Guidelines state that the environmental analysis shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy (Cal. Code Regs., tit. 14, §15126.4(a)(1)). Appendix F of the Guidelines further suggests consideration of such factors as the project's energy requirements and energy use efficiency; its effects on local and regional energy supplies and energy resources; its requirements for additional energy supply capacity; its compliance with existing energy standards; and any alternatives that could reduce wasteful, inefficient and unnecessary consumption of energy (Cal. Code Regs., tit. 14, §15000 et seq., Appendix F).

LOCAL

No local or county ordinances apply to power plant efficiency.

FACILITY DESIGN

The applicable LORS for each engineering discipline, civil, structural, mechanical and electrical, are included as part of the engineering appendices, Appendices A through G, and summarized in Sections 7.3 and 7.4 and Table 7.0-1 (OMGC 1999a). A summary of these LORS includes: Title 24, California Code of Regulations, which adopts the current edition of the California Building Code (CBC) as minimum legal building standards; the 1998 CBC for design of structures; American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code; and National Electrical Manufacturers Association (NEMA) standards.

GEOLOGY AND PALEONTOLOGY

FEDERAL

There are no federal LORS for geological hazards and resources, or grading and erosion control. The Otay Mesa Generating Project (OMGP) is not located on lands owned by the United States Government.

STATE AND LOCAL

The California Building Code (CBC) 1998 edition is based upon the Uniform Building Code (UBC), 1997 edition, which was published by the International Conference of Building Officials. The CBC is a series of standards that are used in the investigation, design (Chapters 16 and 18) and construction (including grading and erosion control as found in Appendix Chapter 33). The CBC supplements the UBC's grading and construction ordinances and regulations.

The California Environmental Quality Act (CEQA) Guidelines Appendix G provides a checklist of questions that a lead agency should normally address if relevant to a project's environmental impacts.

Section (V) (c) asks if the project will directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

Sections (VI) (a), (b), (c), (d), and (e) pose questions that are focused on whether or not the project would expose persons or structures to geological hazards.

Sections (X) (a) and (b) pose questions about the project's effect on mineral resources.

Public Resources Code section 5097.5 requires that no person shall cause the destruction or removal of vertebrate paleontologic resources on public lands unless express permission of the public agency having jurisdiction over the lands has been granted.

The Standard Procedures, Measures for Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources (SVP 1994) are a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. They were adopted in October 1994 by a national organization of vertebrate paleontologists (the Society of Vertebrate Paleontologists).

HAZARDOUS MATERIALS MANAGEMENT

FEDERAL

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III and Clean Air Act of 1990 established a nationwide emergency planning and response program and imposed reporting requirements for businesses which store, handle, or produce significant quantities of extremely hazardous materials. The Act (codified in 40 C. F. R., / 68.110 et seq.) requires the states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility. The requirements of these Acts are reflected in the California Health and Safety Code, section 25531 et seq.

STATE

The California Health and Safety Code, section 25534, directs facility owners, storing or handling acutely hazardous materials in reportable quantities, to develop a Risk Management Plan (RMP) and submit it to appropriate local authorities, the United States Environmental Protection Agency (EPA), and the designated local Administering Agency for review and approval. The plan must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any preexisting evaluations or studies of the material, the likelihood of the substance being handled in the manner indicated, and the accident history of the material. This new, recently developed program supersedes the California Risk Management and Prevention Plan (RMPP).

Title 8, California Code of Regulations, Section 5189, requires facility owners to develop and implement effective safety management plans to insure that large quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process.

Title 8, California Code of Regulations, section 458 and sections 500 — 515, set forth requirements for design, construction and operation of vessels and equipment used to store and transfer anhydrous ammonia. These sections generally codify the requirements of several industry codes, including the ASME Pressure Vessel Code, ANSI K61.1 and the National Boiler and Pressure Vessel Inspection Code. While these codes apply to anhydrous ammonia, they may also be used to design storage facilities for aqueous ammonia.

California Health and Safety Code, section 41700, requires that No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort,

repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.

LOCAL AND REGIONAL

The Uniform Fire Code (UFC) contains provisions regarding the storage and handling of hazardous materials. These provisions are contained in Articles 79 and 80. The latest revision to Article 80 was in 1997 (UFC, 1997). These articles contain minimum setback requirements for outdoor storage of ammonia.

The California Building Code contains requirements regarding the storage and handling of hazardous materials. The Chief Building Official must inspect and verify compliance with these requirements prior to issuance of an occupancy permit. A further discussion of these requirements is provided in the **Facility Design** portion of this document.

LAND USE

The proposed power plant site is located in the County of San Diego. The existing Miguel-Tijuana 230 kV transmission line crosses lands in the jurisdiction of San Diego County and the City of Chula Vista. There are no goals or policies in the City of Chula Vista General Plan that are applicable to the potential reconductoring of the Miguel-Tijuana transmission line (Bazzel 2000). A short segment of the proposed natural gas pipeline would be located in the City of San Diego. The City of San Diego Zoning Ordinance does not apply to utility lines such as gas pipelines (Levin 2000).

SAN DIEGO COUNTY

GENERAL PLAN

The current Regional Land Use Element of the San Diego County General Plan was adopted January 3, 1979 and amended January 11, 1995. The General Plan industrial land use designations provide locations for manufacturing, industrial, wholesaling, and warehousing uses based on the potential nuisance characteristics or impacts of a use. The General Impact Industrial designation provides for uses exhibiting moderate to severe nuisance characteristics. Typically, large sites are required with direct access to major roads, railroads, and other transportation modes (CSD 1979).

OTAY SUBREGIONAL PLAN

Adopted May 18, 1983, and amended July 27, 1994, the Otay Subregional Plan is part of the General Plan Regional Land Use Element. The Land Use Goal of the Otay Subregional Plan is to provide a land use pattern sensitive to the opportunities and constraints of the subregion. The reasons for this are as follows:

1. the planned second international border crossing, the State Correctional Facility and the increased industrial development immediately across the Mexican border have increased development pressures on the subregion in general and on Otay Mesa in particular;
2. Otay Mesa contains large, level, undeveloped and relatively inexpensive parcels of land, and is located near a large labor pool, moderately priced housing and a general aviation airport which makes it highly suitable for large scale industrial development;
3. the anticipated development of Otay Mesa represents potentially significant economic benefits to the subregion; and
4. the subregion contains valuable agricultural land; although adversely affected by high water and labor costs, the retention of agricultural land should be encouraged during the extended build out period of Otay Mesa.

The proposed power plant site is designated General Impact Industrial on the Otay Subregional Plan Land Use Map (CSD 1994b).

East Otay Mesa Specific Plan

Approved in 1994, the East Otay Mesa Specific Plan sets forth a comprehensive vision for development of approximately 3,300 acres in the southwestern portion of San Diego County as a modern industrial and business center. The planning intent of the East Otay Mesa Specific Plan is to implement the policies of the General Plan and the Otay Subregional Plan. According to the East Otay Mesa Specific Plan (Specific Plan), the area has the potential to be the County's largest industrial and business district. The Specific Plan states that the area contains large parcels of level, relatively inexpensive land located near the international border crossing and its Maquiladora or Twin Plants, which make it highly suitable for large-scale industrial development¹ (CSD 1994a, p. 5).

East Otay Mesa Site Planning and Design Guidelines

The East Otay Mesa Site Planning and Design Guidelines are a key implementation tool for the East Otay Mesa Specific Plan. The overall goal of the Design Guidelines is to create an industrial and business park that has a strong identity and is a place of distinction and quality. Another goal is to assure a compatible interface with the proposed Otay River Valley Regional Open Space Park that enhances both the industrial development as well as the Regional Park².

Sweetwater Community Plan

Adopted August 25, 1977, and amended October 28, 1993, the Sweetwater Community Plan is part of the San Diego General Plan. The Sweetwater Community Planning Area is that portion of unincorporated San Diego County south of State Route 54, east of Interstate 805 and north of the City of Chula Vista. The goals of the Sweetwater Community Plan are to retain and enhance the community's open, rural, equestrian atmosphere. The existing SDG&E Miguel Substation is located within the Sweetwater Community Planning Area and the existing Miguel-Tijuana 230 kV transmission line traverses the plan area from north to south.

¹ The Maquiladora or Twin Plant Program, initiated by the Mexican government in 1965, allows U.S. companies to manufacture in a trade zone in Mexico along the international border. According to the East Otay Mesa Specific Plan, the growth of the Maquiladora Program in the early 1980s initiated a demand for industrial land in the U.S. near the border to accommodate distribution and warehousing of products manufactured in Mexico. In recognition of this demand, San Diego County amended its General Plan in 1983 to allow general industrial uses in East Otay Mesa (CSD 1994a, pp. 4-5).

² The proposed Otay River Valley Regional Open Space Park is located to the north and adjacent to the East Otay Mesa Specific Plan area.

CITY OF SAN DIEGO

DRAFT COMPREHENSIVE LAND USE PLAN FOR BROWN FIELD AIRPORT

Brown Field Airport was required to prepare a Comprehensive Land Use Plan (CLUP). The CLUP focuses on preventing new problems of land use incompatibility, and identifying existing incompatible uses (City of San Diego 2000).

NOISE

FEDERAL

U. S. Occupational Safety and Health Administration (OSHA). Under the Occupational Safety and Health Act of 1970 (29 USC/651 et seq.), OSHA has adopted regulations (29 CFR/1910.95) that establish maximum noise levels to which workers at a facility may be exposed. These OSHA noise regulations are designed to protect workers against the effects of noise exposure, and lists permissible noise level exposure as a function of the amount of time during which the worker is exposed. OSHA regulations also dictate hearing conservation program requirements and workplace noise monitoring requirements. The administering agency for the above authority is OSHA.

Noise Control Act of 1972 (42 USC 6 4901 et seq.; 40 CFR Parts 201-211). This act sets performance standards for noise emissions from major sources. The U.S. Environmental Protection Agency (USEPA) has identified a day/night level (Ldn) of 55^odba. as providing reasonable protection against community annoyance and activity interference due to noise. EPA administers the Noise Control Act.

STATE

There are no state regulations governing off-site (community) noise. Rather, state planning law (Gov. Code, / 65302) requires that all counties and cities prepare and adopt a General Plan. Government Code section 65302(f) requires that a noise element be prepared as part of the General Plan. This element is to address existing and foreseeable noise problems. Other state laws, ordinances, regulations and standards (LORS) include the California Environmental Quality Act (CEQA) and the California Occupational Safety and Health Act (Cal-OSHA).

California Vehicle Code, sections 23130 and 23130.5, sets noise limits for highway vehicles. The California Highway Patrol and the San Diego County Sheriff s Office administer the vehicle code.

CAL-OSHA

California Department of Industrial Relations, Occupational Safety and Health Administration (Cal-OSHA). Cal-OSHA has established maximum permissible worker noise exposure levels to protect workers against hearing damage.

Cal-OSHA regulations (Cal. Code Regs., tit. 8, and /5095 et seq.) are the same as the federal OSHA criteria described above. The criteria are based on a worker s noise level exposure over a specific time period. The administering agency is Cal-OSHA.

CEQA

CEQA requires that significant environmental impacts be identified, and that such impacts be eliminated or mitigated to the extent feasible. The applicable CEQA Guidelines (Cal. Code Regs., tit. 14, /15000 et seq., Appendix G /XI) explain that a significant effect from noise may exist if a project would result in:

1. Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Exposure of persons to, or generation of, excessive ground borne vibration or ground borne noise levels.
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

LOCAL

San Diego County General Plan Noise Element. The San Diego County Noise Element states that whenever possible, development in San Diego County should be planned and constructed so that noise sensitive areas are not subjected to noise in excess of CNEL equal to 55 dBA. Therefore, the County has established a noise goal of 55 dBA CNEL at residential locations.

San Diego County Code, Section 36.401-36.443, Noise Abatement Control. The county noise code requires sources to meet varying noise limits within different zoning areas. The noise criteria are summarized below in **Noise: Table 1**. If the measured ambient level exceeds the applicable limits noted in **Noise: Table 1**, the allowable one-hour average sound level shall be the ambient noise level. The applicable noise limit is 70 dBA at all times. The noise limit for residential areas is 45 dBA during nighttime periods.

NOISE: Table 1
San Diego County Code Sound Level Limits*

Zone	Time	Applicable Limit One-Hour Average Sound Level (dBA)
R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-88, S-90, S-92, R-V, and R-U. Use regulations with a density of less than 11 dwelling units per acre.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	50 45
R-RO, R-C, R-M, C-30, S-86, R-V and R-U. Use regulations with a density of 11 or more dwelling units per acre.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50
S-94 and all other commercial zones.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55
M-50, M-52, M-54	Anytime	70
S-82, M-58, and all other industrial zones.	Anytime	75

*** Source: Section 36.404 of the San Diego County Code**

Fixed-location public utility distribution or transmission facilities located on, or adjacent to a property line shall be subjected to noise limits in Section 36.404, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

PUBLIC HEALTH

FEDERAL

The Clean Air Act of 1970 (42 U.S.C., section 7401 et seq.) required establishment of ambient air quality standards to protect the public from the effects of air pollutants. These standards have been established by the United States Environmental Protection Agency (EPA) for the major air pollutants: nitrogen dioxide, ozone, sulfur dioxide, carbon monoxide, sulfates, particulate matter with a diameter of 10 micron or less (PM10) and lead).

STATE

California Health and Safety Code section 39606 requires the California Air Resources Board (ARB) to establish California's ambient air quality standards to reflect the California-specific conditions that influence its air quality. Such standards have been established by the ARB for ozone, carbon monoxide, sulfur dioxide, PM10, lead, hydrogen sulfide, vinyl chloride and nitrogen dioxide. The same biological mechanisms underlie some of the health effects of most of these criteria pollutants as well as the noncriteria pollutants. The California standards are listed together with the corresponding federal standards in the **Air Quality** section.

California Health and Safety Code section 41700 states that No person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause or have a natural tendency to cause injury or damage business or property.

The California Health and Safety Code section 39650 et seq. mandates that the California Environmental Protection Agency (Cal-EPA) establish safe exposure limits for toxic, noncriteria air pollutants and identify the best available methods for their control. These laws also require that the new source review rules for each air district include regulations establishing procedures to control the emission of these pollutants. The toxic emissions from natural gas combustion are listed in ARB's April 11, 1996 California Toxic Emissions Factors (CATEF) database for natural gas-fired combustion turbines. Cal-EPA has developed specific cancer potency estimates for assessing their related cancer risks at specific exposure levels. For noncancer-causing toxic air pollutants, Cal-EPA established specific no-effects levels (known as reference exposure levels, or RELs) for assessing the likelihood of producing health effects at specific exposure levels. Such health effects would be considered significant only when exposure exceeds these reference levels. The Energy Commission staff (staff) uses these Cal-EPA potency estimates and reference exposure values in its health risk assessments.

California Health and Safety Code section 44300 et seq. requires facilities, which emit large quantities of criteria pollutants and any amount of noncriteria pollutants to provide the local air district an inventory of toxic emissions. Such facilities may also be required to prepare a quantitative health risk assessment to address the potential health risks involved. The ARB and the Air Quality Management District will ensure implementation of these requirements for the proposed project.

LOCAL

The San Diego Air Pollution Control District (the District) has no specific rules implementing Health and Safety Code section 44300. It does, however, require the results of a health risk assessment as part of the application for the Determination of Compliance. OMGP has complied with this requirement.

RELIABILITY

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the commission must make findings as to the manner in which the project is to be designed, sited and operated to ensure safe and reliable operation (Cal. Code Regs., tit. 20, /1752(c

One LORS pertaining to the natural gas system that supplies fuel to the project is SDG&E s Rule 14, Shortage of Gas Supply, Interruption of Delivery, and Priority of Service, effective February 17, 1998. This rule establishes the method and priority by which SDG&E s natural gas customers are supplied or curtailed when gas supply or delivery capability is inadequate to serve all customers needs.

SOCIOECONOMIC RESOURCES

CALIFORNIA GOVERNMENT CODE, SECTION 65995-65997

SB 50 and other statutory amendments enacted in 1998 provide that, notwithstanding any other provisions of local or state law (including CEQA), state and local agencies may not require mitigation for the development of real property for effects on school enrollment except as provided by new provisions in the Government Code. (Govt. Code, Sec. 65996(a).) The relevant provisions restrict fees for the development of commercial and industrial space to a maximum of \$0.31 per square foot of chargeable covered and enclosed space. (Govt. Code, Sec. 65995(b)(2).)

ENVIRONMENTAL JUSTICE

President Clinton's Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was signed on February 11, 1994. The order required the US Environmental Protection Agency (USEPA) and all other federal agencies to develop environmental justice strategies. The USEPA subsequently issued Guidelines that require all federal agencies and state agencies receiving federal funds, to develop strategies to address this problem. The agencies are required to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations.

EAST OTAY MESA SPECIFIC PLAN

The East Otay Mesa Specific Plan (Specific Plan) sets forth a comprehensive plan for the development of 3,300 acres within the East Otay Mesa Specific Plan Area for industrial and business uses. The Specific Plan sets the framework for future development, including policies, standards, and guidelines that facilitate private development over time. The Specific Plan further establishes an implementation program, including infrastructure and public facility plans, and a phasing and financing strategy.

SOILS AND WATER RESOURCES

FEDERAL

CLEAN WATER ACT

The Clean Water Act (33 USC/1257 et seq.) requires states to set standards to protect water quality through the regulation of point source and certain non-point source discharges to surface water. These discharges are regulated through requirements set forth in specific or general National Pollutant Discharge Elimination System (NPDES) permits. Stormwater discharges during construction and operation of a facility, and incidental non-stormwater discharges associated with pipeline construction also fall under this act, and are addressed through a general NPDES permit. In California, requirements of the Clean Water Act regarding regulation of point source discharges and stormwater discharges are delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCB). Section 404 of the act regulates the discharge of dredged or fill material into waters of the United States, including rivers, streams and wetlands. Site specific or general (nationwide) permits for such discharges are issued by the Army Corp of Engineers (ACOE) and are certified by the Regional Water Quality Control Boards. As proposed, a number of ephemeral drainages that may be considered waters of the United States may be crossed by linear facilities of the OMGP.

STATE

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act of 1967, Water Code section 13000 et seq., requires the State Water Resources Control Board (SWRCB) and the nine RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards and implementation procedures. The criteria for the project area are contained in the Water Quality Control Plan for the San Diego Basin (1994). The Porter-Cologne Water Quality Control Act also requires the SWRCB and the nine RWQCBs to ensure the protection of water quality through the regulation of waste discharges to land. Such discharges are regulated under Title 23 and Title 27, California Code of Regulations. These regulations require that the RWQCB issue a Waste Discharge Requirement that specifies conditions regarding the construction, operation, monitoring and closure of the waste disposal site.

Under provisions of the Clean Water Act, the SWRCB adopted two general National Pollutant Discharge Elimination System (NPDES) Permits for control of stormwater runoff during construction and operation of industrial facilities, such as a power plant and associated facilities.

Ground disturbance activities affecting greater than five acres are required, under the General Construction Activity Storm Water Permit, to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). This plan identifies best management practices to reduce sediment, oil and other contaminants in stormwater discharges from the site. The general NPDES permit for Industrial Activities also requires industrial facilities, such as power plants, to prepare and implement a SWPPP that identifies best management practices to reduce the discharge of contaminants from facility operation in stormwater discharge.

The SWRCB has also adopted a number of policies that provide guidelines for water quality protection. The principle policy of the SWRCB which addresses the specific siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling (adopted by SWRCB on June 19, 1976 by Resolution 75-58). This policy states that use of fresh inland waters should only be used for powerplant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. This SWRCB policy requires that power plant cooling water should, in order of priority come from wastewater being discharged to the ocean, ocean water, brackish water from natural sources or irrigation return flow, inland waste waters of low total dissolved solids, and other inland waters. This policy goes on to address cooling water discharge prohibitions.

Section 13551 of the Water Code prohibits the use of water from any source of quality suitable for potable domestic use for nonpotable uses, including industrial uses, if suitable recycled water is available given conditions set forth in section 13550. These conditions take into account the quality and cost of the water, the potential for public health impacts and the effects on downstream water rights, beneficial uses and biological resources.

401 WATER QUALITY CERTIFICATION

Section 401 of the Clean Water Act provides for state certification that federal permits allowing discharge of dredged or fill material into waters of the United States will not violate federal and state water quality standards. For the OMGP, a number of the proposed linear facilities cross ephemeral drainages that may be considered waters of the United States. The San Diego RWQCB will issue the 401 certification for this project.

LOCAL

East Otay Mesa Specific Plan

Policy PF-5 sets the County's policy and specifies implementation for a reclaimed water distribution system that will facilitate the use of reclaimed water for landscape irrigation, toilet flushing and processing water.

Policy PF-6 establishes the Storm Water Drainage Policy and describes implementation.

San Diego County Zoning and Land Use Regulations, Division 7 sets forth grading requirements, and the County's Procedure Manual for the Preparation and Checking of Street Improvements and Grading Plans specifies grading and drainage system criteria (San Diego County 1994c).

San Diego County Ordinance No. 9146 specifies development fees, agreements, and requirements for the East Otay Mesa Sewer Maintenance District.

Otay Water District Code of Ordinances, Section 26 - Water Reclamation Plan and Implementation Procedures includes provisions for mandating the installation of reclaimed water distribution systems or other facilities in new development if future reclamation facilities are proposed in the Reclamation Master Plan.

TRANSMISSION LINE SAFETY AND NUISANCE

AVIATION SAFETY

Any hazard to aircraft in the Otay Mesa area relates to the potential for collision with the electric power line in the navigable air space. The applicable federal LORS as discussed below are intended to ensure the distance and visibility necessary to avoid such collisions.

FEDERAL

- Title 14, Part 77 of the Code of Federal Regulations (CFR), Objects Affecting the Navigation Space. Provisions of these regulations specify the criteria used by the Federal Aviation Administration (FAA) for determining whether a Notice of Proposed Construction or Alteration is required for potential obstruction hazards. The need for such a notice depends on factors related to the height of the structure, the slope of an imaginary surface from the end of nearby runways to the top of the structure, and the length of the runway involved. Such notification allows the FAA to ensure that the structure is located to avoid any significant hazards to area aviation.
- FAA Advisory Circular (AC) No. 70/460-2H, Proposed Construction and or Alteration of Objects that may Affect the Navigation Space. This circular informs each proponent of a project that could pose an aviation hazard of the need to file the Notice of Proposed Construction or Alteration (Form 7640) with the FAA.
- FAA AC No. 70/460-1G, Obstruction Marking and Lighting. This circular describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Part 77 of the CFR.

INTERFERENCE WITH RADIO-FREQUENCY COMMUNICATION

Transmission line-related radio-frequency interference is one of the indirect effects of line operation produced by the physical interactions of line electric fields. The level of such interference usually depends on the magnitude of the electric fields involved. Because of this, the potential for such impacts can be assessed from field strength estimates obtained for the line. The following regulations are intended to ensure that such lines are located away from areas of potential interference and that any interference is mitigated whenever it occurs.

FEDERAL

- Federal Communications Commission (FCC) regulations in Title 47 CFR, Section 15.25. Provisions of these regulations prohibit operation of any devices producing force fields, which interfere with radio communications, even if (as with transmission lines) such devices are not intentionally

designed to produce radio-frequency energy. Such interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The process involved is known as corona discharge but is referred to as spark gap electric discharge when it occurs within gaps between the conductor and insulators or metal fittings. When generated, such noise manifests as perceivable interference with radio or television signal reception or interference with other forms of radio communication. Since the level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration and weather conditions, maximum interference levels are not specified as design criteria for modern transmission lines. The FCC requires each line operator to mitigate all complaints about interference on a case-specific basis. Staff usually recommends specific conditions of certification to ensure compliance with this FCC requirement.

STATE

- General Order 52 (GO-52), California Public Utilities Commission (CPUC). Provisions of this order govern the construction and operation of power and communications lines and specifically deal with measures to prevent or mitigate inductive interference. Such interference is produced by the electric field induced by the line in the antenna of a radio signal receiver.

Several design and maintenance options are available for minimizing these electric field-related impacts. When incorporated in the line design and operation, such measures also serve to reduce the line-related audible noise discussed below.

AUDIBLE NOISE

INDUSTRY STANDARDS

There are no design-specific federal regulations to limit the audible noise from transmission lines. As with radio noise, such noise is limited instead through design and maintenance standards established from industry research and experience. These standards have proven effective without significant impacts on line safety, efficiency maintainability and reliability. All high-voltage lines are designed to assure compliance with industry standards. Any noise will usually result from the action of the electric field at the surface of the line conductor and could be perceived as a characteristic crackling, frying, hissing sound, or hum. Since (as with communications interference), the noise level depends on the strength of the line electric field, the potential for occurrence can be assessed from estimates of the field strengths expected during operation. Such noise is usually generated during wet weather and from lines of 345 kV or higher. It is, therefore, not generally expected at significant levels from lines of less than 345 kV such as the one proposed for OMGP. Research by the Electric Power Research Institute (EPRI 1982) has validated this by showing the fair-weather

audible noise from modern transmission lines to be generally indistinguishable from background noise at the edge of a 100-ft right-of-way.

NUISANCE SHOCKS

INDUSTRY STANDARDS

There are no design-specific federal regulations to limit nuisance shocks in the transmission line environment. For modern high-voltage lines, such shocks are effectively minimized through grounding procedures specified in the National Electrical Safety Code and the joint guidelines of the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). Nuisance shocks are caused by current flow at levels generally incapable of significant physiological harm. They result mostly from direct contact with metal objects electrically charged by fields from the energized line. Such electric charges are induced in different ways by the line electric and magnetic fields.

As with lines of the type proposed, the applicant will be responsible in all cases for ensuring compliance with these grounding-related practices within the right-of-way. Staff usually recommends specific conditions of certification to ensure that such grounding is made within the right-of-way by both the applicant and property owners. The applicable condition for this project is TLSN-5.

FIRE HAZARDS

The following regulations address those fire hazards that could be caused by sparks from conductors of overhead lines or that could result from direct contact between the line and nearby trees and other combustible objects.

STATE

- General Order 95 (GO-95), CPUC, Rules for Overhead Electric Line Construction specifies tree-trimming criteria to minimize the potential for power line-related fires.
- Title 14 Section 1250 of the California Code of Regulations, Fire Prevention Standards for Electric Utilities specifies utility-related measures for fire prevention.

HAZARDOUS SHOCKS

The hazardous shocks that are addressed by the following regulations and standards are those that could result from direct or indirect contact between an individual and the energized line. Such shocks are capable of serious physiological harm or death and remain a driving force in the design and operation of transmission and other high-voltage lines.

STATE

- GO-95, CPUC. Rules for Overhead Line Construction . These rules specify uniform statewide requirements for overhead line construction regarding ground clearance, grounding, maintenance and inspection. Implementing these requirements ensures the safety of the general public and line workers.
- Title 8, CCR, Section 2700 et seq., High Voltage Electric Safety Orders . These safety orders establish essential requirements and minimum standards for safely installing, operating, and maintaining electrical installations and equipment.

INDUSTRIAL STANDARDS

There are no design-specific federal regulations to prevent hazardous shocks from power lines. Safety is assured through compliance with the requirements in the National Electrical Safety Code, Part 2: Safety Rules for Overhead Lines. These provisions specify the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. They are intended to minimize the potential for direct or indirect contact with the energized line.

ELECTRIC AND MAGNETIC FIELD (EMF) EXPOSURE

The possibility of deleterious health effects from electric and magnetic field exposure has increased public concern in recent years about living near high-voltage lines. Both fields occur together whenever electricity flows, hence the general practice of considering exposure as EMF exposure. As noted by the applicant, (OMGP 1999 pages 4-17, 4-18, 5.16-17, 5.16-18 and Appendix M), the available evidence as continually evaluated by CPUC and other regulatory agencies, has not established that such fields pose a significant health hazard to exposed humans. However, staff considers it important, as does the CPUC, to note that while such a hazard has not been established from the available evidence, the same evidence does not serve as proof of a definite lack of a hazard. Staff, therefore considers it appropriate, in light of the present uncertainty, to reduce such fields to some degree, where feasible, until the issue is better understood. The challenge has been to establish when, and how far to reduce them.

While there is considerable uncertainty about the EMF/health effects issue, the following facts have been established from the available information and have been used to establish existing policies:

- Any exposure-related health risk to the exposed individual will likely be small.
- The most biologically significant types of exposures have not been established.

- Most health concerns relate to the magnetic field.
- The measures employed for such field reduction can affect line safety, reliability, efficiency and maintainability, depending on the type and extent of such measures.

STATE

In California, the CPUC (which regulates the installation and operation of high-voltage lines in California) has determined that only no-cost or low-cost measures are presently justified in any effort to reduce power line fields beyond levels existing before the present health concern arose. The CPUC has further determined that such reduction should be made only in connection with new or modified lines. It required each utility within its jurisdiction to establish EMF-reducing design guidelines for all new or upgraded power lines and related facilities within their respective service areas. The CPUC further established specific limits on the resources to be used in each case for field reduction. Such limitations were intended by the CPUC to apply to the cost of any redesign to reduce field strength or relocation to reduce exposure. Utilities not within the jurisdiction of the CPUC voluntarily comply with these CPUC requirements. This PUC policy resulted from assessments made to implement CPUC Decision 93-11-013 of 1989.

In keeping with this CPUC policy, staff requires evidence that each proposed line (whether new or modified) will be designed according to the EMF-reducing design guidelines applicable to the utility service area involved. The service area in this case is that of SDG&E. These field-reducing measures can impact line operation if applied without appropriate regard for environmental and other local issues bearing on safety, reliability, efficiency and maintainability. It is, therefore, up to each applicant to ensure that such measures are applied in ways that have no significant impacts on line operation. The extent of such applications will be reflected by the ground-level field strengths as measured during operation. When estimated or measured for the line, such field strengths can be used by staff and other regulatory agencies for comparison with fields of lines of similar voltage and current-carrying capacity. Such field strengths can be estimated for any given design using established procedures. Estimates are specified for a height of one meter above the ground, in units of kilovolts per meter (kV/m) for the electric field, and milligauss (mG) for the companion magnetic field. Their magnitude depends on line voltage (in the case of electric fields), the geometry of the structures, degree of cancellation from nearby conductors, distance between conductors and, in the case of magnetic fields, amount of current in the line.

Since each new line in California is currently required to be designed according to the EMF-reducing guidelines of the utility in the service area involved, their fields are required under existing CPUC policies to be similar to fields from similar lines in that service area. A condition of certification is usually proposed

by staff to ensure implementation of the reduction measures necessary. The applicable condition for this project is TLSN-1.

INDUSTRIAL STANDARDS

No federal regulations have been established specifying environmental limits on the strengths of fields from power lines. However, the federal government continues to conduct and encourage research necessary for an appropriate policy on the EMF issue.

In the face of the present uncertainty, several states have opted for design-driven regulations ensuring that fields from new or modified lines are generally similar to those from existing lines. Some states (Florida, Minnesota, Montana, New Jersey, and New York) have set specific environmental limits on one or both fields in this regard. These limits are, however, not based on any specific health effects. Most regulatory agencies believe, as does staff, that health-based limits are inappropriate at this time. They also believe that the present knowledge of the issue does not justify any retrofit of existing lines.

TRAFFIC AND TRANSPORTATION

FEDERAL

- Title 49, Code of Federal Regulations, Sections 171-177, governs the transportation of hazardous materials, the type of materials defined as hazardous, and the marking of the transportation vehicles.
- Title 49, Code of Federal Regulations, Sections 350-399, and Appendices A-G, Federal Motor Carrier Regulations, addresses safety considerations for the transport of goods, materials, and substances over public highways.

STATE

- California Vehicle Code, section 353 defines hazardous materials.
- California Vehicle Code, sections 31303-31309 regulate the highway transportation of hazardous materials, the routes used, and restrictions thereon.
- California Vehicle Code, sections 31600-31620 regulate the transportation of explosive materials.
- California Vehicle Code, Sections 32000-32053, regulates the licensing of carriers of hazardous materials and includes noticing requirements.
- California Vehicle Code, Sections 32100-32109, establishes special requirements for the transportation of inhalation hazards and poisonous gases.
- California Vehicle Code, Sections 34000-34121, establishes special requirements for the transportation of flammable and combustible liquids over public roads and highways.
- California Vehicle Code, Sections 34500 et seq., regulate the safe operation of vehicles, including those that are used for the transportation of hazardous materials.
- California Vehicle Code, Sections 2500-2505, authorizes the issuance of licenses by the Commissioner of the California Highway Patrol for the transportation of hazardous materials including explosives.
- California Vehicle Code, Sections 13369, 15275, and 15278, address the licensing of drivers and the classifications of licenses required for the operation of particular types of vehicles. In addition, these sections require the possession of certificates permitting the operation of vehicles transporting hazardous materials.
- California Streets and Highways Code, Sections 117 and 660-72, and California Vehicle Code 35780 et seq., require permits for the transportation of oversized loads on county roads.

- California Streets and Highways Code, Sections 660, 670, 1450, 1460 et seq., and 1480 et seq., regulate right-of-way encroachment and the granting of permits for encroachment on state and county roads.
- California Health and Safety Code, Section 25160 et seq., addresses the safe transport of hazardous materials.

LOCAL

SAN DIEGO COUNTY

GENERAL PLAN

The General Plan establishes local goals and policies regarding transportation improvements. The circulation element of the plan has several objectives such as providing a guide for the provisions of a coordinated system of highway routes throughout San Diego County, helping to achieve efficiency and economy in this important field of public works, and facilitating the planning to meet street and highway needs in subdivision and other land development programs.

East Otay Mesa Specific Plan

This portion of the General Plan provides guidance for future development of the East Otay Mesa area. Within the plan is a discussion of traffic circulation. Applicable goals and policies are:

5. Promote the development of local road circulation facilities to adequately serve the planned land uses in the East Otay Mesa Specific Plan Area.
6. Public road design and private development shall follow all road standards of the Specific Plan.
7. Assure that necessary road improvements are provided to mitigate project impacts.
8. Promote the development of regional road facilities as necessary to accommodate future development in the East Otay Mesa Specific Plan Area.
9. Promote circulation coordination between the County of San Diego and the City of San Diego to develop a safe and efficient roadway system for Otay Mesa.

Centerline Ordinance, Subdivision Ordinance, and Public Road Standards

These set forth guidelines relating to dedications and improvements. The administering agency is the San Diego County Department of Planning and Land Use (the San Diego County Board of Supervisors). These ordinances apply to the OMGP because the Loop Road and north access road will be public roads.

SAN DIEGO ASSOCIATION OF GOVERNMENTS (SANDAG)

SANDAG released a Draft 2020 Regional Transportation Plan in November 1999, pursuant to Section 65080 of the State Government Code, which mandates a periodic update of the Regional Transportation Plan. The Final Plan was released in April 2000 (SANDAG 2000a). These documents contain updated traffic counts, status of other development projects in the area, and suggestions for relieving congestion.

VISUAL RESOURCES

FEDERAL AND STATE

The proposed project, including the visible linear facility (i.e., a 0.1-mile transmission line interconnect) is located on private lands and is thus not subject to federal land management requirements. Likewise, no roadway in the project vicinity is a designated or eligible State Scenic Highway. Therefore, no federal or state regulations pertaining to scenic resources are applicable to the project.

LOCAL

The project would be located in the unincorporated area of San Diego County.

SAN DIEGO COUNTY

DARK SKY ORDINANCE

San Diego County has specific policies for lighting that would apply to the Otay Mesa Project. These issues are addressed in the San Diego Dark Sky Ordinance (Division 9, sections 59.101-59.15 of the County Zoning Ordinance, and implemented by the San Diego County Planning Department. The purpose of the Dark Sky Ordinance is to control light pollution in the unincorporated areas of the county. In order for two observatories (Mt. Palomar and Mt. Laguna) to continue as high-quality astronomical research sites, light pollution in the surrounding area (generally 40-50 miles) must be controlled. The project is within Zone B of the Dark Sky Ordinance since it is outside the 15-mile radii around each of the observatories that are defined in the Ordinance as Zone A. For parking lots and security lighting, the Ordinance requires all low-pressure sodium lighting to be fully shielded. Other lighting above 4050 lumens [more than 200 watt standard incandescent, 150 watt tungsten-halogen (quartz), 75 watt mercury vapor, 50 watt high pressure sodium or 40 watt fluorescent] is prohibited for parking lots and security. However, lighting below 4050 lumens is allowed, but should be shielded where feasible and focused to minimize the spill of light into the night sky or adjacent properties.

THE EAST OTAY MESA SPECIFIC PLAN

The Specific Plan includes one regulatory provision and several policies within the Urban Design Element that apply to the proposed project. As indicated in the land use section of the AFC, the project is within the Mixed Industrial General Plan and Zoning designation that is subject to the B designator; a regulatory provision which requires that a project within this designation must comply with the East Otay Mesa Site Planning and Design Guidelines.

The following guidelines are specific to visual resources and the proposed project:

- Policy UD-1: Encourage the preservation and enhancement of visually prominent land forms and areas of special scenic beauty, particularly the San Ysidro Mountain foothills and the valley walls of Johnson and O Neal Canyons. Compliance will be implemented during the site plan review process pursuant to the Sensitive Resource Area Regulations for parcels with a G Designator and the Community Design Review Area Regulations for parcels with a B Designator.
- Policy UD-2: Implement a Streetscape Plan that enhances the identity and image of the East Otay Mesa Specific Plan Area. This policy will be implemented as part of roadway design and construction.
- Policy UD-5: Promote high quality design of buildings and landscaping on private property throughout East Otay Mesa to create a strong identity and image of high quality urban design for the area. To implement this policy, the entire East Otay Mesa Specific Plan Area that has been zoned Mixed Industrial and Commercial is given a B Designator and is subject to the Community Design Review Area Regulations.
- Policy UD-6: Onsite landscaping along public streets should be compatible and complementary with the streetscape design of the public right of way. The compatibility of onsite landscaping will be reviewed as part of the B Designator Site Plan review process.
- Policy UD-8: Encourage placement of public art in new development within the industrial and commercial areas of East Otay Mesa. This policy is not mandatory, but the County and the Community Design Review Board will encourage developers to include public art for projects in the industrial and commercial areas.

CITY OF CHULA VISTA

The applicant has indicated in the AFC that the project may require reconductoring the existing Miguel-Tijuana 230 kV transmission line, which crosses Otay Lakes Road, East H Street and Eastlake Parkway in the City of Chula Vista. The Land Use Element of the City of Chula Vista General Plan describes the city's scenic highway plan and designates certain roads and road segments as scenic highways (Chula Vista, 1989, Section 8.1 Designated Scenic Roadways). Some of the scenic highways designated in the Chula Vista General Plan have not yet been built or extended as planned. According to this Element, scenic highways are made up of the road, its right of way, and the scenic corridor, the latter being the visible area outside the highway's right of way. Those scenic highways that were in existence at the time of this assessment and which are relevant to the OMGP include Otay Lakes Road, East H Street, and Eastlake Parkway. All developments adjacent to the mentioned roadways are

subject to review of architectural design, siting, height of structures, landscaping, signs, and utilities. The design of the existing transmission towers, their siting and height will not be altered. The only changes will be that the conductors will be bundled and a yoke will be used to connect them to the insulators and ensure separation. There will be no landscaping, signs, or utilities. Therefore, design review will not be required.

WASTE MANAGEMENT

FEDERAL

RESOURCE CONSERVATION AND RECOVERY ACT, RCRA, (42 U.S.C. / 6922)

RCRA establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal. Section 6922 requires the generators of hazardous wastes to comply with requirements regarding:

- Record keeping practices which identify the quantities and disposal of hazardous wastes generated,
- Labeling practices and use of appropriate containers,
- Use of a recording or manifest system for transportation, and
- Submission of periodic reports to the EPA or an authorized state agency.

TITLE 40, CODE OF FEDERAL REGULATIONS, PART 260

These sections specify the regulations promulgated by the EPA to implement the requirements of RCRA as described above. To facilitate such implementation, the defining characteristics of each hazardous waste are specified in terms of toxicity, ignitability, corrosivity, and reactivity.

STATE

CALIFORNIA HEALTH AND SAFETY CODE / 25100 ET SEQ. (HAZARDOUS WASTE CONTROL ACT OF 1972, AS AMENDED).

This act creates the framework under which hazardous wastes must be managed in California. It mandates the State Department of Health Services (now the Department of Toxic Substances Control (DTSC), under the California Environmental Protection Agency, (Cal EPA) to develop and publish a list of hazardous and extremely hazardous wastes, and to develop and adopt specific criteria and guidelines for classifying such wastes. The act also requires all hazardous waste generators to file specific notification statements with Cal EPA and creates a manifest system to be used when transporting such wastes.

TITLE 14, CALIFORNIA CODE OF REGULATIONS, / 17200 ET SEQ. (MINIMUM STANDARDS FOR SOLID WASTE HANDLING AND DISPOSAL)

These regulations specify the minimum standards applicable to the handling and disposal of solid wastes. They also specify the guidelines necessary to ensure that all solid waste management facilities comply with the solid waste management plans of the administering county agency.

***TITLE 22, CALIFORNIA CODE OF REGULATIONS, / 66262.10 ET SEQ.
(GENERATOR STANDARDS)***

These sections establish specific requirements for generators of hazardous wastes with respect to handling and disposal. Under these requirements, all waste generators are required to determine whether or not their wastes are hazardous according to state-specified criteria. As with the federal program, every hazardous waste generator is required to obtain an EPA identification number, prepare all relevant manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Additionally, all hazardous wastes are required to be handled only by registered hazardous waste transporters. Requirements for record keeping, reporting, packaging, and labeling are also established for each generator.

LOCAL

There are no local LORS of particular significance with regard to the wastes from the proposed and similar projects.

WORKER SAFETY AND FIRE PROTECTION

FEDERAL

In December 1970, Congress enacted Public Law 91-596, the Federal Occupational Safety and Health Act of 1970 (the Act). The Act mandates safety requirements in the workplace and is found in Title 29 of the United States Code, section 651 (29 U.S.C. // 651 - 678). Implementing regulations are codified at Title 29 of the Code of Federal Regulations, under General Industry Standards, Parts 1910.1 through 1910.1450 (29 CFR Part 1910.1 - 1910.1450) and clearly define the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector. Most of the safety and health standards now in force under the Act for general industry represent a compilation of materials authorized by the Act from existing federal standards and national consensus standards. These include standards from the voluntary membership organizations of the American National Standards Institute (ANSI), and the National Fire Protection Association (NFPA) which publishes the National Fire Codes.

The congressional purpose of the Act is to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources, (29 USC/651). The Federal Department of Labor promulgates and enforces safety and health standards that are applicable to all businesses affecting interstate commerce. The Department of Labor established the Occupational Safety and Health Administration (OSHA) in 1971 to discharge the responsibilities assigned by the Act.

Applicable Federal requirements include:

- Title 29 U.S. Code/651 et seq. (Occupational Safety and Health Act of 1970)
- Title 29 Code of Federal Regulations Part 1910.1 - 1910.1450 (Occupational Safety and Health Administration Safety and Health Regulations)
- Title 29 Code of Federal Regulations Part 1910.170 - 1910.175 (Federal approval of California's plan for enforcement of its own Safety and Health requirements, in lieu of most of the Federal requirements found in 29 CFR Part 1910.1 — 1910.1500)

STATE

California passed the Occupational Safety and Health Act of 1973 (Cal/OSHA) as published in the California Labor Code section 6300. Regulations promulgated as a result of the Act are codified at Title 8 of the California Code of

Regulations, beginning with Part 450 (8 CCR Part 450 et seq.) The California Labor Code requires that the State Standards Board must adopt standards at least as effective as the federal standards (Calif. Labor Code/142.3(a)). Health and Safety laws meet or exceed the Federal requirements. Hence, California obtained federal approval of its State health and safety regulations, in lieu of the federal requirements published at 29 CFR Parts 1910.1 - 1910.1500. The Federal Secretary of Labor, however, continually oversees California's program and will enforce any federal standard for which the State has not adopted a Cal/OSHA counterpart.

The State of California Department of Industrial Relations is charged with responsibility for administering the Cal/OSHA plan. The Department of Industrial Relations is further split into six divisions to oversee, among other activities: industrial accidents, occupational safety and health, labor standards enforcement, statistics and research, and the State Compensation Insurance Fund (workers compensation).

Employers are responsible to insure that their employees are informed about workplace hazards, potential exposure and the work environment (Calif. Labor Code/6408). Cal/OSHA's principal tool in ensuring that workers and the public are informed is the Material Safety Data Sheet (MSDS) (8 CCR/5194). This regulation was promulgated in response to California's Hazardous Substances Information and Training Act of 1990 (8 CCR /874, and Calif. Labor Code// 6360-6399.7). It mirrored the Federal Hazard Communication Standard (29 CFR Part 1910.1200) which established an employee's right to know about chemical hazards in the workplace, but added the provision of applicability to public sector employers.

Finally, California Senate Bill 198, which was passed by the Governor in 1989, required that employers establish and maintain a written Injury and Illness Prevent Program to identify workplace hazards and communicate them to its employees through a formal employee training program (8 CCR 3203).

Applicable State requirements include:

- Title 8 California Code of Regulation section 339 - List of hazardous chemicals relating to the Hazardous Substance Information and Training Act
- Title 8 California Code of Regulations section 450, et seq. Cal / OSHA regulations
- Title 24 California Code of Regulations section 3, et seq. - incorporates the current addition of the Uniform Building Code

- Health and Safety Code section 25500, et seq. - Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at the facility
- Health and Safety Code section 25500 - 25541 - Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at the facility

LOCAL

The California Building Standards Code published at Title 24 of the California Code of Regulations, section 3 , et seq., is comprised of eleven parts containing the building design and construction requirements relating to fire and life safety and structural safety. The Building Standards Code includes the electrical, mechanical, energy, and fire codes applicable to the project. Local planning/building & safety departments enforce the California Uniform Building Code.

National Fire Protection Association (NFPA) standards are published in the California Fire Code. The fire code contains general provisions for fire safety, including but not restricted to: 1) required road and building access; 2) water supplies; 3) installation of fire protection and life safety systems; 4) fire-resistive construction; 5) general fire safety precautions; 6) storage of combustible materials; 7) exits and emergency escapes; and 8) fire alarm systems. The California Fire Code reflects the body of regulations published at Part 9 of Title 24 the California Code of Regulations pertaining to the California Fire Code.

Similarly, the Uniform Fire Code Standards, a companion publication to the California Fire Code, contains standards of the American Society for Testing and Materials and the NFPA. It is the United States premier model fire code. It is updated annually as a supplement and published every third year by the International Fire Code Institute to include all approved code changes in a new edition.

Applicable local requirements include:

- 1998 Edition of California Fire Code and all applicable NFPA standards (24 CCR Part 9)
- California Building Code, Title 24, California Code of Regulations (24 CCR/3, et seq.)

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OTAY MESA GENERATING PROJECT

Appendix B



Proof of Service List

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STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission

In the Matter of:)	Docket No. 99-AFC-5
)	
Application for Certification for the Otay Mesa Generating Project (PG&E Generating))	PROOF OF SERVICE
)	
_____)	

I, _____ name _____ declare that on _____ date _____ I deposited
copies of the attached _____ document _____ in the United States mail in
_____ city _____ with first class postage thereon fully prepaid and addressed to
the following:

DOCKET UNIT

*Send the original signed document
plus 12 copies to the following address:*

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 99-AFC-5
DOCKET UNIT, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

*In addition to the documents sent to
the Commission Docket Unit, also
send individual copies of all
documents to:*

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Electricity Oversight Board
Gary Heath, Executive Director
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Sacramento, CA 95814

Paul Clanon, Director
Energy Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

I declare that under penalty of perjury that the foregoing is true and correct.

(Signature)

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OTAY MESA GENERATING PROJECT

Appendix C



Exhibit List

STATE OF CALIFORNIA
**Energy Resources Conservation
and Development Commission**

In the Matter of:)	
)	
Application for Certification)	Docket No. 99-AFC-5
for the Otay Mesa Generating Project)		
<u>(PG&E National Energy Group)</u>)	

EXHIBIT LIST

- EXHIBIT 1: Application for Certification for the Otay Mesa Generating Project, Volumes I and II, dated August 1999. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 2: Applicant Authority to Construct application to the San Diego Air Pollution Control District dated August 20, 1999, filed August 31, 1999. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 3: Applicant Supplement to Project Dispersion Modeling dated July 30, 1999, filed on September 10, 1999. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 4: Applicant Data Adequacy responses dated September 10, 1999 filed on September 10, 1999. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 5: San Diego County Comments on Application for Certification dated September 28, 1999, filed on October 15, 1999. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 6: Applicant Data Adequacy responses to CEC questions of November 9, 1999 and County of San Diego letter of September 28, 1999 dated and filed December 8, 1999. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 7: MSCP Subareas, filed on December 15, 1999. Sponsored by Applicant and received into evidence on November 20, 2000.

- EXHIBIT 8: Applicant responses to CEC Data Requests of December 5, 1999 dated and filed on January 5, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 9: San Diego Gas & Electric Facilities Study Agreement dated January 3, 2000, filed on January 11, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 10: Applicant Supplemental Response to CEC Data Requests of November 9, 1999 and December 3, 1999 dated and filed February 1, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 11: Applicant response to CEC Data Request 26 (CD-ROM), filed January 24, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 12: Option and Conveyance Agreement for Mobile Emission Reduction Credits dated and filed February 8, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 13: California Independent System Operator letter to San Diego Gas & Electric Company reviewing Impact Study dated filed February 8, 2000, filed February 14, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 14: Applicant request to California Air Resources Board to specify MERC requirements, dated January 27, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 15: Applicant request to Environmental Protection Agency to specify MERC requirements, filed January 26, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 16: San Diego Gas & Electric Company Subregional Natural Community Conservation Plan, filed on February 28, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 17: Applicant Supplement to AFC, dated and filed on March 2, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.

- EXHIBIT 18: Applicant letter to San Diego County responding to letter of February 10, 2000 regarding Lone Star route, filed February 22, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 19: Various documents regarding the rules of the San Diego Air Pollution Control District dated and filed March 3, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 20: Applicant revised supplemental items plus Application for Confidential Designation, filed on March 2, 2000. (CONFIDENTIAL FILING) Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 21: Applicant Supplement to Authority to Construct application, filed March 2, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 22: Visual aids presented at March 2, 2000 workshop, filed on March 9, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 23: Correspondence from Greg Cox supporting project dated March 2, 2000, filed March 10, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 24: Additional information on MERCs from San Diego harbor excursions, filed March 14, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 25: Letter from Environmental Protection Agency to San Diego Air Pollution Control District, dated March 14, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 26: California Air Resources Board guidance on MERCs dated March 17, 2000, filed March 20, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 27: Draft wastewater discharge application, filed March 21, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 28: San Diego Emission Reduction Credit certificates, filed April 11, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.

- EXHIBIT 29: Press release showing support from the San Diego Board of Supervisors dated April 13, 2000, filed April 18, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 30: Minutes of San Diego County Board of Supervisors meeting dated April 12, 2000, filed April 25, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 31: Biological Assessment dated April 28, 2000 filed May 1, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 32: Applicant response to comments on the Health Risk Assessment, filed April 14, 2000 (CD-ROM). Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 33: Transmittal letter regarding potential acute health risks dated May 2, 2000, filed May 9, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 34: Applicant responses to Staff data requests regarding gas availability, filed May 18, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 35: San Diego Gas & Electric Company Facilities Study Report of May 9, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 36: Correspondence of Independent System Operator to SDG&E, dated May 19, 2000 and filed May 26, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 37: Chart of Brown Field clearances dated May 15, 2000, filed May 30, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 38: Letter from San Diego Gas & Electric Company to the ISO, dated June 6, 2000 and filed June 6, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 39: FAA No Hazard Determination, filed May 26, 2000. Sponsored by Applicant and received into evidence on December 4, 2000.

- EXHIBIT 40: Preliminary Determination of Compliance, issued by San Diego Air Pollution Control District dated June 19, filed June 21, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 41: Applicant comments to Preliminary Staff Assessment, filed June 19, 2000. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 42: Press release regarding pipeline to Mexico, dated June 13, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 43: Otay Mesa Water District's Statement of Will Serve for Otay Mesa Generating Project Water Supply Needs, filed September 24, 1999. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 44: Biological Resources Mitigation and Monitoring Plan, Quino report and Fairy Shrimp report, filed June 28, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 45: Draft EIR for creating MERCs, filed on July 3, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 46: Maps of compensation lands, filed April 27, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 47: North Baja Pipeline presentation, filed July 7, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 48: Letter initiating Section 7 Endangered Species Act (ESA) consultation, filed July 13, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 49: Staff Letter answering questions from notice of July 25, 2000 status conference dated July 20, 2000, filed July 25, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 50: SDG&E Response to questions in July 25, 2000 status conference notice, dated July 25, filed August 17, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.

- EXHIBIT 51: Applicant responses to Committee questions regarding natural gas availability, filed July 21, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 52: Applicant's clarifications and refinements to the AFC, filed August 18, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 53: Applicant addendum to response to CEC data request 44, filed September 1, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 54: Applicant biology compensation proposal, filed September 1, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 55: Figure 3.5-1, Grading and Drainage plan, filed September 5, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 56: Supplement to Traffic Study Impact report, filed September 6, 2000. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 57: APCD letter approving MERC program, filed September 11, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 58: Applicant comments to PSA, Air Quality section, filed September 15, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 59: Applicant letter to county regarding grading plan of July 24, 2000, filed September 15, 2000. Sponsored by Applicant and received into evidence on November 14, 2000.
- EXHIBIT 60: PM10 CEQA Mitigation Proposal and Response to CEC Request for PM10 Benefits of Offset Package dated October 9, 2000, filed October 10, 2000. Sponsored by Applicant and received into evidence on November 13, 2000.
- EXHIBIT 61: Applicant responses to comments of Intervenors, filed October 23, 2000. Sponsored by Applicant and initially received into evidence on November 13, 2000 (inadvertently received into evidence again on November 20, 2000).

- EXHIBIT 62: Biological Resources Mitigation Implementation and Monitoring Plan, dated September 13, 2000, and filed October 18, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 63: Applicant Biological Assessment, dated September 13, 2000, and filed October 18, 2000. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 64: Staff s Final Staff Assessment (FSA) Part 1 filed on October 13, 2000. Sponsored by Staff and received into evidence on December 4, 2000.
- EXHIBIT 65: Staff s Final Staff Assessment (FSA) Part 2, Air Quality, Traffic & Transportation, and Land Use filed on October 27, 2000. Sponsored by Staff and received into evidence on December 4, 2000.
- EXHIBIT 66: Proposed Factual Corrections to the Otay Mesa FSA filed on November 7, 2000. Sponsored by SDG&E and received into evidence on December 4, 2000.
- EXHIBIT 67: Applicant s Comments on Project Description Related Portions of the Final Staff Assessment (10/00) filed on November 8, 2000. Sponsored by Applicant and received into evidence on November 13, 2000
- EXHIBIT 68: Transmission System Reliability Testimony filed on November 7, 2000. Submitted by the California Independent System Operator (CAL-ISO). Sponsored by Staff and received into evidence on November 14, 2000.
- EXHIBIT 69: Testimony of Holly Duncan on Alternatives filed on November 8, 2000. Sponsored by Intervenor Holly Duncan and received into evidence on November 13, 2000.
- EXHIBIT 70: Intervenor Holly Duncan s Exhibit and Witness List Project Resume, Cross-Examination and Testimony for 11/13—14 Evidentiary Hearings filed on November 8, 2000. Sponsored by Intervenor Holly Duncan and received into evidence on November 13, 2000.

- EXHIBIT 71: Save Our Bay, William E. Claycomb, Intervenor, Declarations, proposed exhibits, written testimony and areas of cross-examination filed on November 8, 2000. Sponsored by Intervenor Save Our Bay, William E. Claycomb and received into evidence on November 13, 2000.
- EXHIBIT 72: Cabrillo Power's prepared testimony, witness qualifications, exhibits, and description of areas of cross-examination filed on November 9, 2000. Sponsored by Intervenor Cabrillo Power and received into evidence on November 20, 2000.
- EXHIBIT 73: Prepared Direct Testimony of Robin S. Tenoso and Benjamin A. Montoya filed on November 9, 2000. Sponsored by SDG&E and received into evidence on November 14, 2000.
- EXHIBIT 74: Staff's additional Testimony and Errata filed on November 9, 2000. Sponsored by Staff and received into evidence on December 4, 2000.
- EXHIBIT 75: Applicant's additional Testimony, filed November 8, 2000. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 76: SDG&E's Response to the CPUC's Order Instituting Investigation re SDG&E's gas transmission system, dated November 22, 2000. Sponsored by Intervenor SDG&E and received into evidence on December 4, 2000.
- EXHIBIT 77: Applicant's Prehearing Conference Statement and Prepared Testimony, dated October 23, 2000. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 78: Art Soinski's Resume filed on October 27, 2000. Sponsored by Staff and received into evidence on November 13, 2000.
- EXHIBIT 79: Energy Commission Staff Report of Conversation between Steve Baker of CEC Staff and Ben Montoya of SDG&E dated March 16, 2000. Sponsored by Intervenor Cabrillo Power and received into evidence on November 14, 2000.
- EXHIBIT 80: Prepared Responsive Testimony of James L. Filippi. Sponsored by Applicant and received into evidence on November 20, 2000.

- EXHIBIT 81: Prepared Responsive Testimony of R. Thomas Beach. Sponsored by Applicant and received into evidence on November 20, 2000.
- EXHIBIT 82: Prepared Testimony of Gary Rubenstein, filed November 17, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 83: Air Quality Testimony of Holly Duncan, filed November 16, 2000 as amended November 17, 2000. Sponsored by Intervenor Holly Duncan and received into evidence on November 21, 2000.
- EXHIBIT 84: A letter to Commissioners Robert A. Laurie and Robert Pernell from San Diego County Air Pollution Control District concerning effects of fuel oil combustion, dated November 17, 2000. Sponsored by the Committee and received into evidence on November 21, 2000.
- EXHIBIT 85: Additional Prepared Testimony of James Caldwell, filed on November 17, 2000. Identified and retracted by Applicant. Not admitted.
- EXHIBIT 86: San Diego County Air Pollution Control District's Answer to Petition for Variance from Rule 69 filed by Duke Energy, dated November 8, 2000 and filed November 17, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 87: Letter to Commissioners re Refinements to Otay Mesa Generating Project Including Avoidance of Sensitive Biological Habitat dated August 18, 2000 and filed August 18, 2000. (Related to Exhibit 52.) Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 88: Staff's Additional Air Quality Testimony, Addendum to FSA Part 2 Air Quality, filed November 17, 2000. Sponsored by Staff and received into evidence on November 21, 2000.
- EXHIBIT 89: Emergency Motion of Dynegy Marketing to the California Public Utilities Commission re SDG&E's Gas Rule 14, dated November 17, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 90: Emergency Motion of Duke Energy to the California Public Utilities Commission re SDG&E's Rule 14, dated November 17, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.

- EXHIBIT 91: Supplemental Testimony by Robert Weatherwax, submitted on November 20, 2000. Sponsored by Intervenor Cabrillo Power and received into evidence on November 21, 2000.
- EXHIBIT 92: Letter from Cal-ISO to CPUC re SDG&E's Advice Letter 1210-G, dated August 7, 2000. Sponsored by Intervenor Cabrillo and received into evidence on December 4, 2000.
- EXHIBIT 93: San Diego County Air Pollution Control District's Final Determination of Compliance (FDOC), dated September 18, 2000 and filed September 22, 2000. Sponsored by Staff and received into evidence on November 21, 2000.
- EXHIBIT 94: Letter from San Diego County Air Pollution Control District to J. Kent Williams of Cabrillo Power re: Force Majeure Natural Gas Curtailment, dated August 29, 2000. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 95: San Diego County Air Pollution Control District Hearing Board Order on Cabrillo Power's Request for Variance, dated October 14, 1999. Sponsored by Applicant and received into evidence on November 21, 2000.
- EXHIBIT 96: Applicant's submittals to U.S. Army Corps of Engineers for Section 404 Permit; to the Department of Fish and Game requesting a Streambed Alteration Agreement; and to the San Diego Regional Water Quality Control Board for Section 401 Certification, filed November 21, 2000. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 97: Staff's Supplemental Testimony on Alternatives and Traffic, filed November 20, 2000 and amended November 27, 2000. Sponsored by Staff and received into evidence on December 4, 2000.
- EXHIBIT 98: Applicant's Supplemental Traffic Impact Study, dated November 28, 2000, and filed November 28, 2000. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 99: Applicant's Rebuttal Testimony of James Filippi, dated December 1, 2000, and filed December 1, 2000. Sponsored by Applicant and received into evidence on December 4, 2000.

- EXHIBIT 100: Cabrillo Power s Rebuttal Testimony to Caldwell Testimony by Robert Weatherwax dated December 1, 2000 and filed December 1, 2000. Sponsored by Intervenor Cabrillo Power and received into evidence on December 4, 2000.
- EXHIBIT 101: Declaration of Thomas Guthrie, Plant Manager of South Bay Power Plant, dated December 1, 2000 and filed December 1, 2000. Sponsored by Intervenor Duke Energy and received into evidence on December 4, 2000.
- EXHIBIT 102: Comments of the San Diego County Air Pollution Control District on SDG&E S and Southern California Gas Company s Initial Response to Order Instituting Investigation dated December 4, 2000. Sponsored by Committee and received into evidence on December 4, 2000.
- EXHIBIT 103: Staff s Supplemental Testimony of Matthew Layton on Potential Air Quality Impacts, draft dated December 4, 2000, and filed in final form on December 5, 2000. Sponsored by Staff and received into evidence on December 4, 2000.
- EXHIBIT 104: Surrebuttal Testimony to Testimony of James Filippi by Robert K. Weatherwax. Sponsored by Applicant and received into evidence on December 4, 2000.
- EXHIBIT 105: Responses by Matthew Layton to Cross-Examination Questions from Cabrillo Power, dated December 7, 2000, and filed December 7, 2000. Sponsored by Staff and received into the record on December 7, 2000.
- EXHIBIT 106: Biological Opinion of the U. S. Fish and Wildlife Service addressed to the U. S. Environmental Protection Agency, Region IX, dated November 22, 2000, and filed December 7, 2000. Sponsored by the Applicant and received into evidence on December 7, 2000.
- EXHIBIT 107: Consistency Determination of the California Department of Fish and Game (CDFG) addressed to William Chilson for PG&E National Energy Group, dated January 4, 2001, and filed January 25, 2001. Sponsored by Applicant and received into evidence on January 25, 2001.
- EXHIBIT 108: Package of letters from San Diego County, City of San Diego, and CalTrans Re Agreement on Traffic and Transportation Mitigation Plan, filed January 19, 2001. Sponsored by Applicant and received into evidence on January 19, 2001.

- EXHIBIT 109: Plant layout for the General Electric and Siemens-Westinghouse Turbine Alternatives, filed February 16, 2001. Sponsored by Applicant and received into evidence on February 16, 2001.
- EXHIBIT 110: Letter from PG&E National Energy Group to Commissioner Laurie, dated January 8, 2001, and filed January 8, 2001. Sponsored by Applicant and received into evidence on January 8, 2001.
- EXHIBIT 111: Declaration of Thomas Guthrie Regarding Oil Burning History at South Bay Power Plant, dated December 14, 2000, and Declaration of Randall Hickok Regarding Oil Burning History at South Bay Power Plant, dated December 15, 2000. Sponsored by Intervenor Duke Energy of North America and received into evidence on December 15, 2000.
- EXHIBIT 112: Declaration of Gregory Hughes, dated December 15, 2000, and Declaration of J. Kent Williams, dated December 19, 2000. Sponsored by Intervenor Cabrillo and received into evidence on December 19, 2000.
- EXHIBIT 113: Letter dated February 28, 2001 from PG&E Generating to Eileen Allen regarding the parcel map. Received on March 2, 2001. Sponsored by Applicant and received into evidence on March 2, 2001.
- EXHIBIT 114: Notice from San Diego County Air Pollution Control District regarding the Supplement to Final Determination of Compliance Concerning prevention of Significant Deterioration (PSD) Requirements, dated December 15, 2000, and received on January 3, 2001. Sponsored by Applicant and received into evidence on January 3, 2001.

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OTAY MESA
GENERATING PROJECT

Appendix D



Glossary of Terms and Acronyms



GLOSSARY OF TERMS AND ACRONYMS

A		BARCT	Best Available Retrofit Control Technology
A	Ampere	bbl	barrel
AAL	all aluminum (electricity conductor)	BCDC	Bay Conservation and Development Commission
AAQS	Ambient Air Quality Standards	BCF	billion cubic feet
ABAG	Association of Bay Area Governments	Bcfd	billion cubic feet per day
AC	alternating current	b/d	barrels per day
ACE	Argus Cogeneration Expansion Project Army Corps of Engineers	BLM	Bureau of Land Management
ACSR	aluminum covered steel reinforced (electricity conductor)	BPA	U.S. Bonneville Power Administration
AFC	Application for Certification	BR	Biennial Report
AFY	acre-feet per year	Btu	British thermal unit
AHM	Acutely Hazardous Materials	C	
ANSI	American National Standards Institute	CAA	U.S. Clean Air Act
APCD	Air Pollution Control District	CAAQS	California Ambient Air Quality Standards
APCO	Air Pollution Control Officer	CALEPA	California Environmental Protection Agency
AQMD	Air Quality Management District	CALTRANS	California Department of Transportation
AQMP	Air Quality Management Plan	CAPCOA	California Air Pollution Control Officers Association
ARB	Air Resources Board	CBC	California Building Code
ARCO	Atlantic Richfield Company	CCAA	California Clean Air Act
ASAE	American Society of Architectural Engineers	CDF	California Department of Forestry
ASHRAE	American Society of Heating Refrigeration & Air Conditioning Engineers	CDFG	California Department of Fish and Game
ASME	American Society of Mechanical Engineers	CEERT	Coalition for Energy Efficiency and Renewable Technologies
ATC	Authority to Construct	CEM	continuous emissions monitoring
B		CEQA	California Environmental Quality Act
BAAQMD	Bay Area Air Quality Management District	CESA	California Endangered Species Act
BACT	Best Available Control Technology	CFB	circulating fluidized bed
BAF	Basic American Foods	CFCs	chloro-fluorocarbons
		cfm	cubic feet per minute

CFR	Code of Federal Regulations
cfs	cubic feet per second
CLUP	Comprehensive Land Use Plan
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO ₂	carbon dioxide
COI	California Oregon Intertie
CPCN	Certificate of Public Convenience & Necessity
CPM	Compliance Project Manager
CPUC	California Public Utilities Commission
CT	combustion turbine current transformer
CTG	combustion turbine generator
CURE	California Unions for Reliable Energy
	D
dB	decibel
dB(A)	decibel on the A scale
DC	direct current
DCTL	Double Circuit Transmission Line
DEIR	Draft Environmental Impact Report
DEIS	Draft Environmental Impact Statement
DFG	California Department of Fish and Game
DHS	California Department of Health Services
DISCO	Distribution Company
DOC	Determination of Compliance
DOE	U.S. Department of Energy
DSM	demand side management
DTC	Desert Tortoise Council
DWR	California Department of Water Resources

	E
EDF	Environmental Defense Fund
Edison	Southern California Edison Company
EDR	Energy Development Report
EFS&EPD	Energy Facilities Siting and Environmental Protection Division
EIA	U.S. Energy Information Agency
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ELFIN	Electric Utility Financial and Production Simulation Model
EMF	electric and magnetic fields
EOR	East of River (Colorado River)
EPA	U.S. Environmental Protection Agency
EPRI	Electric Power Research Institute
ER	Electricity Report
ERC	emission reduction credit {offset}
ESA	Endangered Species Act (Federal) Environmental Site Assessment
ETSR	Energy Technologies Status Report
	F
FAA	Federal Aviation Administration
FBE	Functional Basis Earthquake
FCAA	Federal Clean Air Act
FCC	Federal Communications Commission
FEIR	Final Environmental Impact Report
FIP	Federal Implementation Plan
FONSI	Finding of No-Significant Impact
FERC	Federal Energy Regulatory Commission
FSA	Final Staff Assessment
	G

GEP	good engineering practice	KGRA	known geothermal resource area
GIS	gas insulated switchgear geographic information system	km	kilometer
gpd	gallons per day	KOP	key observation point
gpm	gallons per minute	KRCC	Kern River Cogeneration Company
GW	gigawatt	kV	kilovolt
GWh	gigawatt hour	KVAR	kilovolt-ampere reactive
	H	kW	kilowatt
H ₂ S	hydrogen sulfide	kWe	kilowatt, electric
HCP	habitat conservation plan	kWh	kilowatt hour
HHV	higher heating value	kWp	peak kilowatt
HRA	Health Risk Assessment		L
HRSG	heat recovery steam generator	LADWP	Los Angeles Department of Water and Power
HV	high voltage	LAER	Lowest Achievable Emission Rate
HVAC	heating, ventilating and air conditioning	lbs	pounds
	I	lbs/hr	pounds per hour
IAR	Issues and Alternatives Report	lbs/MMBtu	pounds per million British thermal units
IEA	International Energy Agency	LCAQMD	Lake County Air Quality Management District
IEEE	Institute of Electrical & Electronics Engineers	LMUD	Lassen Municipal Utility District
IID	Imperial Irrigation District	LORS	laws, ordinances, regulations and standards
IIR	Issues Identification Report		M
IOU	Investor-Owned Utility	m (M)	meter, million, mega, milli or thousand
IS	Initial Study	MBUAPCD	Monterey Bay Unified Air Pollution Control District
ISO	Independent System Operator	MCE	maximum credible earthquake
	J	MCF	thousand cubic feet
JES	Joint Environmental Statement	MCL	Maximum Containment Level
	K	MCM	thousand circular mil (electricity conductor)
KCAPCD	Kern County Air Pollution Control District	μg/m ³	micro grams (10 ⁻⁶ grams) per cubic meter
KCM	thousand circular mils (also KCmil) (electricity conductor)		

MEID	Merced Irrigation District	NOP	Notice of Preparation (of EIR)
MG	milli gauss	NOV	Notice of Violation
mgd	million gallons per day	NRDC	Natural Resources Defense Council
MID	Modesto Irrigation District	NSCAPCD	Northern Sonoma County Air Pollution Control District
MOU	Memorandum of Understanding	NSPS	New Source Performance Standards
MPE	maximum probable earthquake	NSR	New Source Review
m/s	meters per second	O	O
MS	Mail Station	O ₃	Ozone
MVAR	megavolt-ampere reactive	OASIS	Open Access Same-Time Information System
MW	megawatt (million watts)	OCB	oil circuit breaker
MWA	Mojave Water Agency	OCSG	Operating Capability Study Group
MWD	Metropolitan Water District	O&M	operation and maintenance
MWh	megawatt hour	OSHA	Occupational Safety and Health Administration (or Act)
MWp	peak megawatt	P	P
N	N	PG&E	Pacific Gas & Electric Company
N-1	one transmission circuit out	PDCI	Pacific DC Intertie
N-2	two transmission circuits out	PHC(S)	Prehearing Conference (Statement)
NAAQS	National Ambient Air Quality Standards	PIFUA	Federal Powerplant & Industrial Fuel Use Act of 1978
NCPA	Northern California Power Agency	PM	Project Manager particulate matter
NEPA	National Energy Policy Act National Environmental Policy Act	PM ₁₀	particulate matter 10 microns and smaller in diameter
NERC	National Electric Reliability Council	PM _{2.5}	particulate matter 2.5 microns and smaller in diameter
NESHAPS	National Emission Standards for Hazardous Air Pollutants	ppb	parts per billion
NMHC	nonmethane hydrocarbons	ppm	parts per million
NO	nitrogen oxide	ppmvd	parts per million by volume, dry
NOI	Notice of Intention	ppt	parts per thousand
NOL	North of Lugo	PRC	California Public Resources Code
NO _x	nitrogen oxides		
NO ₂	nitrogen dioxide		

PSD	Prevention of Significant Deterioration	SCAQMD	South Coast Air Quality Management District
PSRC	Plumas Sierra Rural Electric Cooperative	SCE	Southern California Edison Company
PT	potential transformer	SCFM	standard cubic feet per minute
PTO	Permit to Operate	SCH	State Clearing House
PU	per unit	SCIT	Southern California Import Transmission
PURPA	Federal Public Utilities Regulatory Policy Act of 1978	SCR	Selective Catalytic Reduction
PV	Palo Verde photovoltaic	SCTL	single circuit transmission line
PX	Power Exchange	SDCAPCD	San Diego County Air Pollution Control District
	Q	SDG&E	San Diego Gas & Electric Company
QA/QC	Quality Assurance/Quality Control	SEPCO	Sacramento Ethanol and Power Cogeneration Project
QF	Qualifying Facility	SIC	Standard industrial classification
	R	SIP	State Implementation Plan
RACT	Reasonably Available Control Technology	SJVAB	San Joaquin Valley Air Basin
RDF	refuse derived fuel	SJVAQMD	San Joaquin Valley Air Quality Management District
ROC	Report of Conversation reactive organic compounds	SMAQMD	Sacramento Metropolitan Air Quality Management District
ROG	reactive organic gas	SMUD	Sacramento Municipal Utility District
ROW	right of way	SMUDGE	SMUD Geothermal
RWQCB	Regional Water Quality Control Board	SNCR	Selective Noncatalytic Reduction
	S	SNG	Synthetic Natural Gas
SACOG	Sacramento Area Council of Governments	SO ₂	sulfur dioxide
SANBAG	San Bernardino Association of Governments	SO _x	sulfur oxides
SANDAG	San Diego Association of Governments	SO ₄	sulfates
SANDER	San Diego Energy Recovery Project	SoCAL	Southern California Gas Company
SB	Senate Bill	SONGS	San Onofre Nuclear Generating Station
SCAB	South Coast Air Basin	SPP	Sierra Pacific Power
SEGS	Solar Electric Generating Station	STIG	steam injected gas turbine
SCAG	Southern California Association of Governments		

SWP	State Water Project	UDC	Utility Displacement Credits
SWRCB	State Water Resources Control Board	UDF	Utility Displacement Factor
	T	UEG	Utility Electric Generator
TAC	Toxic Air Contaminant	USC(A)	United States Code (Annotated)
TBtu	trillion Btu	USCOE	U.S. Corps of Engineers
TCF	trillion cubic feet	USEPA	U.S. Environmental Protection Agency
TCM	transportation control measure	USFS	U.S. Forest Service
TDS	total dissolved solids	USFWS	U.S. Fish and Wildlife Service
TE	transmission engineering	USGS	U.S. Geological Survey
TEOR	Thermally Enhanced Oil Recovery		V
TID	Turlock Irrigation District	VCAPCD	Ventura County Air Pollution Control District
TL	transmission line or lines	VOC	volatile organic compounds
T-Line	transmission line		W
TOG	total organic gases	W	Watt
TPD	tons per day	WAA	Warren-Alquist Act
TPY	tons per year	WEPEX	Western Energy Power Exchange
TS&N	Transmission Safety and Nuisance	WICF	Western Interconnection Forum
TSE	Transmission System Engineering	WIEB	Western Interstate Energy Board
TSIN	Transmission Services Information Network	WOR	West of River (Colorado River)
TSP	total suspended particulate matter	WRTA	Western Region Transmission Association
	U	WSCC	Western System Coordination Council
UBC	Uniform Building Code	WSPP	Western System Power Pool